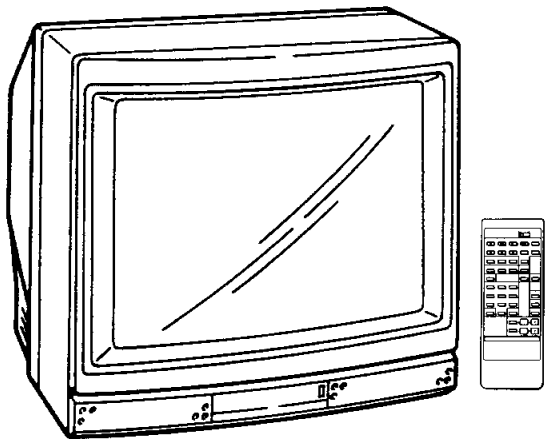
KV-27TS30
RM-764

SERVICE MANUAL

US Model
Chassis No. SCC-C70C-A

Canadian Model
Chassis No. SCC-A50P-A



P-3A CHASSIS

Note: The service manual for RM-764 has been issued separately.

MODELS OF THE SAME SERIES	
KV-27TS30	KV-27TS24
KV-27TS26	
KV-27TS25	

SPECIFICATIONS

Television system	American TV standards
Channel coverage	VHF: 2–13 UHF: 14–69 Cable TV: 1–125
Picture tube	Microblack Trinitron tube **27-inch picture measured diagonally** 28-inch picture tube measured diagonally
Input	VIDEO INPUT S VIDEO (4-pin mini DIN) Y: 1 Vp-p, 75-ohms unbalanced, sync negative C: 0.286 Vp-p, (Burst signal) 75-ohms VIDEO (phono jack) 1 Vp-p, 75-ohms unbalanced, sync negative AUDIO (phono jacks) 500 mVrms (100% modulation) Impedance: 47 kilohms
Output	AUDIO OUTPUT (VARIABLE) (phono jacks) More than 408 mVrms at the maximum volume setting (variable) (100% modulation) Impedance: 10 kilohms
Power requirements	120 V AC, 60 Hz
Power consumption	160W (max.) 5W (in standby condition)
Accessories supplied	Remote Commander RM-764 with 2 size AA batteries Antenna Connector
Optional accessories	U/V mixer EAC-66 Connecting cord VC-15V/30V VMC-810S/820S RK-C74/C150

Design and specifications subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

TABLE OF CONTENTS

Section	Title	Page
1. GENERAL		
1-1.	Location of Controls	4
1-2.	Presetting TV Channels	5
1-3.	Watching TV Programs	6
1-4.	Timer/Block	7
2. DISASSEMBLY		
2-1.	Rear Cover Removal	9
2-2.	A Board Removal	9
2-3.	Service Position	9
2-4.	Picture Tube Removal	10
2-5.	Removal of Anode cap	10
3. SET-UP ADJUSTMENTS		
3-1.	Beam Landing	11
3-2.	Convergence	12
3-3.	Focus Adjustment	14
3-4.	White Balance	14
4. SAFETY RELATED ADJUSTMENT		15
5. CIRCUIT ADJUSTMENTS		
5-1.	A Board Adjustments	18
6. DIAGRAM		
6-1.	Block Diagram	21
6-2.	Circuit Boards Location	25
6-3.	Printed Wiring Boards (1)	26
6-4.	Schematic Diagrams (1)	29
	Schematic Diagrams (2)	33
	Printed Wiring Boards (2)	33
6-5.	Semiconductors	37
7. EXPLODED VIEWS		
7-1.	Rear Cover	38
7-2.	Picture Tube	39
8. ELECTRICAL PARTS LIST		40

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

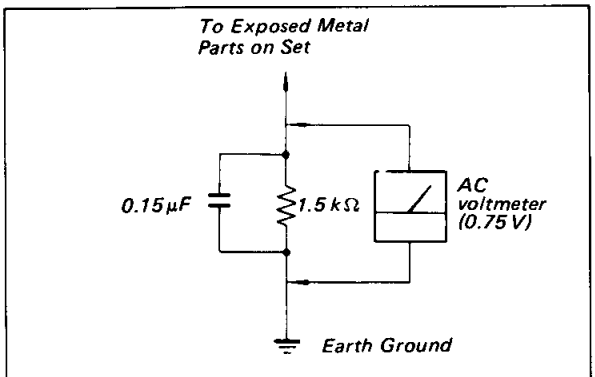


Fig. A. Using an AC voltmeter to check AC leakage.

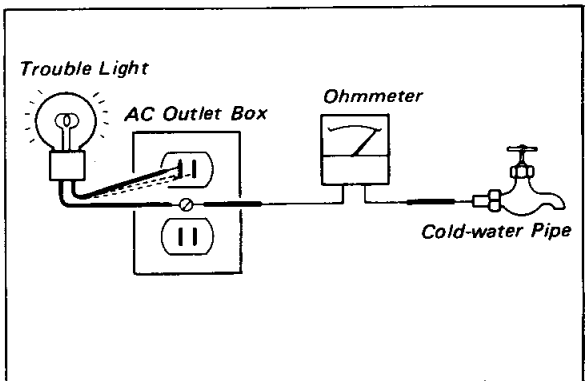
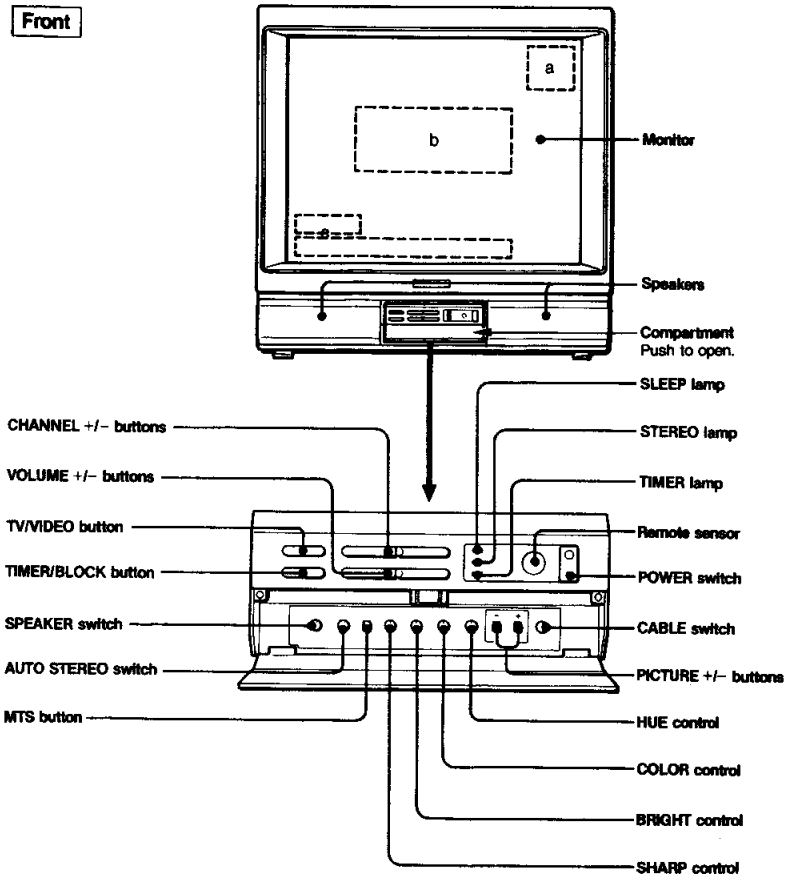


Fig. B. Checking for earth ground.

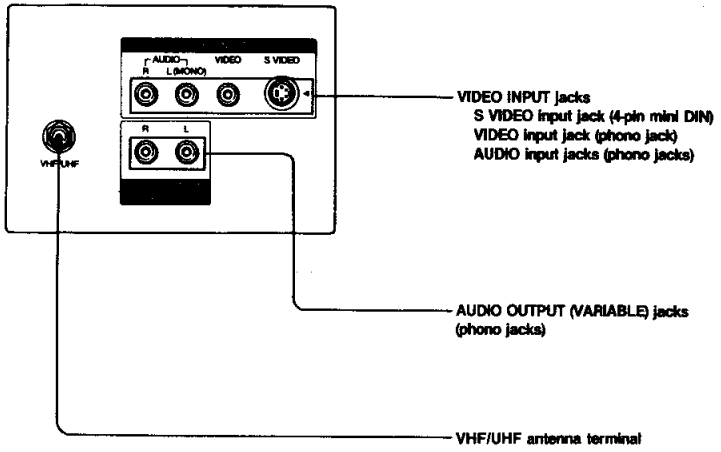
SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS.

Front



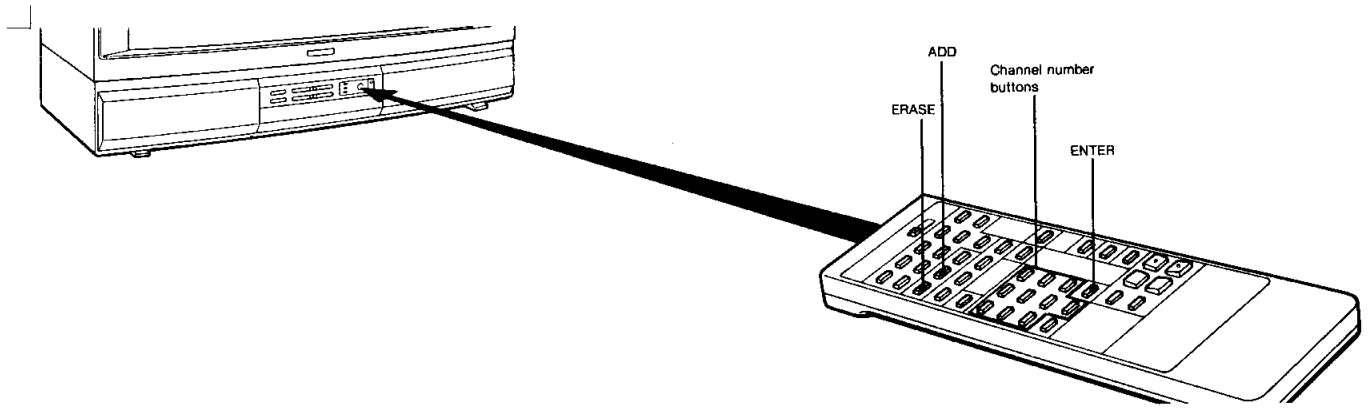
Rear



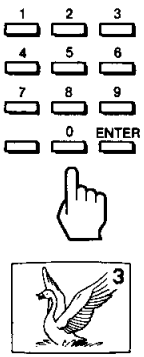
On-screen displays
a) • Channel numbers
• MTS mode indication
• "MUTING", "SLEEP" or "VIDEO" mode indication
b) "AUTO PROGRAM", "TIMER" or "TIMER BLOCK" indication
c) • Bar display for volume or picture adjustment
• Current time for Timer/Block.

1-2. PRESETTING TV CANNELS.

To preset only the desired channels or to erase unnecessary channels
—manual programming



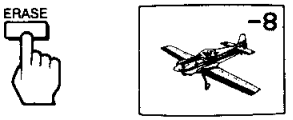
1 **Press the channel number button(s) and then ENTER to select the channel to be added.**



2 **To add channels — Press ADD.**

A "+" appears for a moment.
This channel has now been added to the channel scan memory.

To erase channel — Press ERASE



A "–" appears for a moment.
This channel has now been erased from the channel scan memory. The next time the CH+/– button is pressed, this channel will be skipped.

To add or erase other channels
Repeat steps 1 to 2.

When a VHF or UHF channel is erased
The cable TV channel with the same number is also erased and vice versa.

Pay cable TV systems use scrambled or encoded signals and require special converters (decorders) in addition to the normal cable connection.

Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

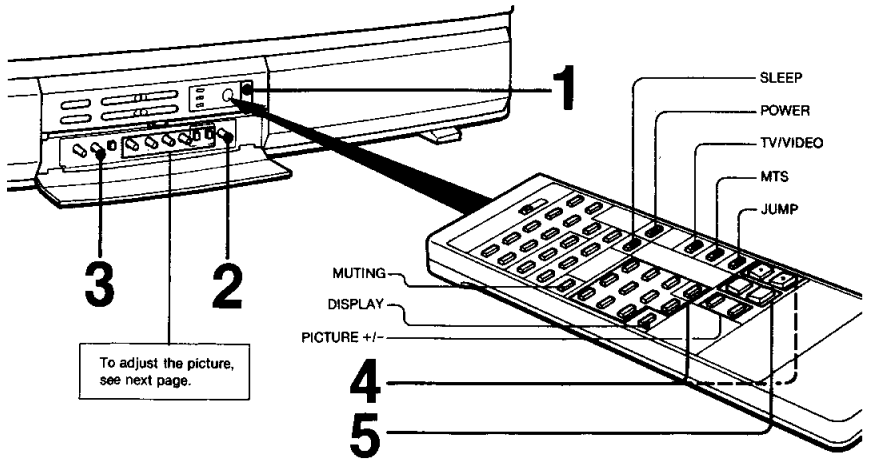
Number on this TV	1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Corresponding CATV channel	A–8	A–7	A–6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q

31	32	33	34	35	36	37	38	39	.....	93	94	95	96	97	98	99	100	101	102	.....	123	124	125
R	S	T	U	V	W	W+1	W+2	W+3	.....	W+57	W+58	A–5	A–4	A–3	A–2	A–1	W+59	W+60	W+61	.....	W+82	W+83	W+84

Check with your local cable TV company for more complete information on the available channels.

* The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

1-3. WATCHING TV PROGRAMS.



To adjust the picture

SHARP	BRIGHT	COLOR	HUE	PICTURE –	PICTURE +
for less sharpness / for more sharpness	for less brightness / for more brightness	for less color intensity / for more color intensity	skin tones become purplish / skin tones become greenish	Press to decrease picture contrast with soft color	Press to increase picture with vivid contrast color

1 **Press POWER to turn the TV on.**

POWER

2 **Set CABLE to the appropriate position.**

OFF — To view VHF or UHF channels
ON — To view cable TV channels
CABLE

3 **Set AUTO STEREO to ON.**

OFF (MONO) — ON
AUTO STEREO

4 **Select a channel in one of the following two ways:**

To scan the preset channels in numerical sequence, press CH +/–.

+ CH –

To select a channel directly, press the channel number button(s) and then ENTER. For example, to select channel 10, press 1, 0 and ENTER.

1 2 3
4 5 6
7 8 9
0 ENTER

5 **Press VOL + or – to adjust the volume.**

+ VOL –

To turn off the system
Press POWER again.

If the "VIDEO" indication is displayed on the screen
Press the TV/VIDEO button on the TV or on the Remote Commander so that a channel number appears.

If noise makes it hard to receive a very weak TV stereo program
Set AUTO STEREO on the TV to OFF so that the STEREO lamp goes off.
The stereo effect will be cancelled, but reception will be stabilized and the noise will be reduced.

For MUTING, DISPLAY, SLEEP, MTS and JUMP buttons, see the next page.

1-4. TIMER/BLOCK.

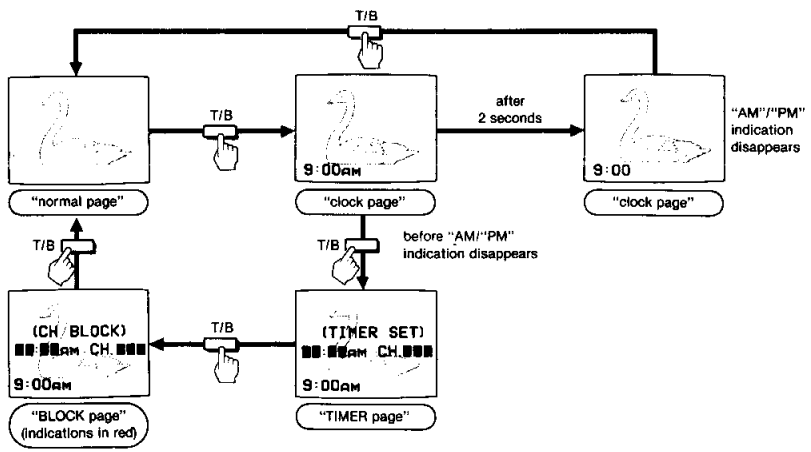
Available functions

Internal clock	Once the internal clock is set, the current time will appear on the screen. It is necessary to set the clock correctly to activate the program start TIMER and channel BLOCK.
Program start TIMER	Makes a program of your choice appear on the screen automatically at the desired time.
Channel BLOCK	Blocks a channel from appearing on the screen for 12 hours. Use channel BLOCK to prevent children from watching undesirable programs.

The buttons used for the above functions are located on the Remote Commander.

To set the internal clock, program start TIMER and channel BLOCK, you must summon the corresponding "pages": "clock page," "TIMER page" and "BLOCK page."

To change the "pages," press TIMER/BLOCK.
T/B stands for the TIMER/BLOCK button.

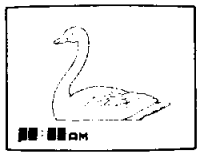


- All settings will be erased from the unit's memory if the unit is unplugged, or if a power failure occurs.
- The TIMER and BLOCK will operate only if the clock is set correctly.
- If the TIMER and BLOCK are set for overlapping times on the same channel, the blocked channel will appear on the screen at the time set on the TIMER.

How to Set the Internal Clock

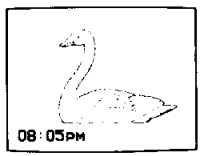
Example: To set the clock to 8:05 PM

1 Press TIMER/BLOCK once to change from "normal page" to "clock page."

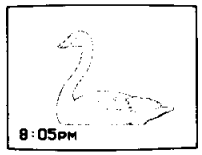


"clock page"

2 Press 0, 8, 0, 5, AM/PM (0 necessary).



3 If you have performed the operation correctly, press ENTER.
The numbers will "wink" to indicate that the clock has been set. (The 0 in front will disappear.)



If you have made a mistake, press CLEAR and return to step 2.

The "AM/PM" indication will disappear after 2 seconds.

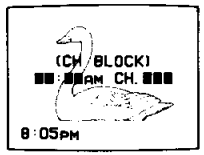
To summon "TIMER page," press TIMER/BLOCK before the "AM"/"PM" indication disappears.
To return to "normal page," press TIMER/BLOCK after the "AM"/"PM" indication has disappeared.

How to Set the Channel BLOCK

Make sure that the clock has been set correctly before setting the channel BLOCK.

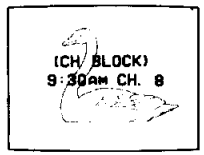
Example: To set the BLOCK for a program which begins at 9:30 AM on channel 8

1 Press TIMER/BLOCK three times to change from "normal page" to "BLOCK page."



"BLOCK page"
(indications in red)

2 Press 0, 9, 3, 0, ENTER (0 necessary).
Numbers will "wink" to indicate that the time has been set.
Press 8, ENTER (0 not necessary).
Numbers will "wink" to indicate that the channel has been set.



The BLOCK has now been set.
If you have made a mistake, press CLEAR and return to step 2.

At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted. A red "BLOCKED" indication will appear on the screen while the channel is blocked.
Normal reception will be resumed after 12 hours.

To reset the clock, summon "clock page" and press CLEAR before the "AM"/"PM" indication disappears. Then follow the steps above from step 2.

12:00 AM stands for midnight.
12:00 PM stands for noon.

To return to normal reception while the channel is blocked, recall "BLOCK page" and press CLEAR.

The BLOCK setting blocks a specified channel for the same 12-hour period everyday.

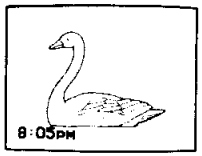
To clear BLOCK setting, summon "BLOCK page" and press CLEAR.
To reset, clear the setting and follow the steps above from step 2.

How to Set the Program Start TIMER

Make sure that the clock has been set correctly before setting the program start TIMER.

Example: To set the TIMER for a program which begins at 10:30 PM on channel 12

1 Press TIMER/BLOCK once to change from "normal page" to "clock page."

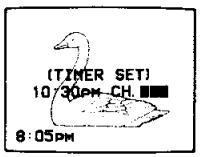


"clock page"

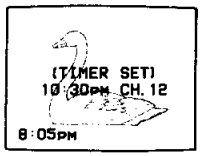
2 Press TIMER/BLOCK before the "AM"/"PM" indication disappears and summon "TIMER page."

"TIMER page"

3 Press 1, 0, 3, 0, AM/PM, ENTER.
Numbers will "wink" to indicate that the time has been set.



4 Press 1, 2, ENTER (0 not necessary).
Numbers will "wink" to indicate that the channel has been set.



The TIMER lamp will light up to indicate that the TIMER has been set.
If you have made a mistake, press CLEAR and return to step 3.

At the preset time, the selected channel will appear on the screen and the TIMER lamp will go out. The TIMER will operate whether you are watching a TV program or a VCR playback, or even if you have turned off the TV.

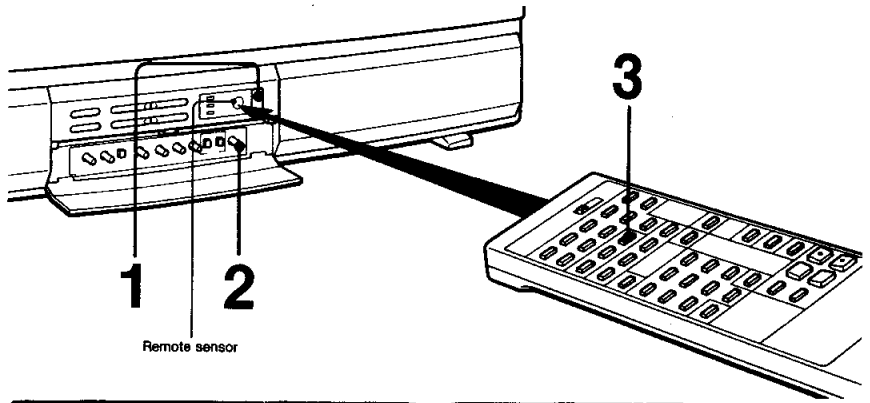
If no button is pressed within 2 hours after the preset time, an "OFF" indication will appear on the screen for 1 minute. If a button is still not touched during the 1 minute, the TV will turn off automatically as a safety precaution.

The TIMER operates only once, but the time and the channel will remain in the unit's memory.
If you want to preset the same channel at the same time for a future date, press TIMER OFF/REPEAT. The TIMER lamp will light up to indicate that the TIMER has been reactivated.

If you want to deactivate the TIMER, press TIMER OFF/REPEAT again so that the TIMER lamp goes out .
It is not necessary to summon "TIMER page" to use the TIMER OFF/REPEAT button. Furthermore, this button is effective even if the TV has been turned off.

To clear the TIMER setting, summon "TIMER page" and press CLEAR.
To reset, clear the setting and follow the steps from step 3.

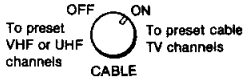
To preset all receivable channels automatically



1 **Turn the TV on.**

POWER

2 **Set CABLE to the correct position.**



3 **Press AUTO PGM.**

AUTO PGM

"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels previously preset remain in the unit's memory.
When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

Receivable channels of this TV are:
VHF: 2-13
UHF: 14-69
Cable: 1-125

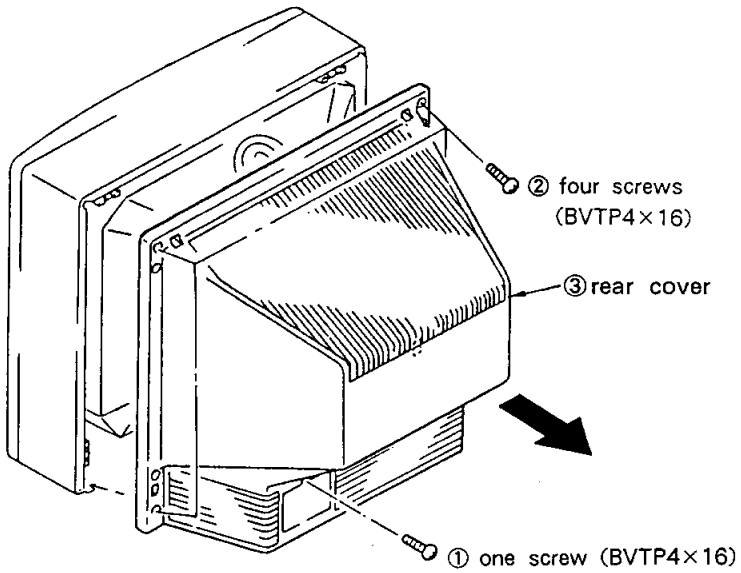
To check preset channels
Press CHANNEL +/-.

If the "VIDEO" indication is displayed on the screen
Press the TV/VIDEO button on the TV or on the Remote Commander so that a channel number appears.

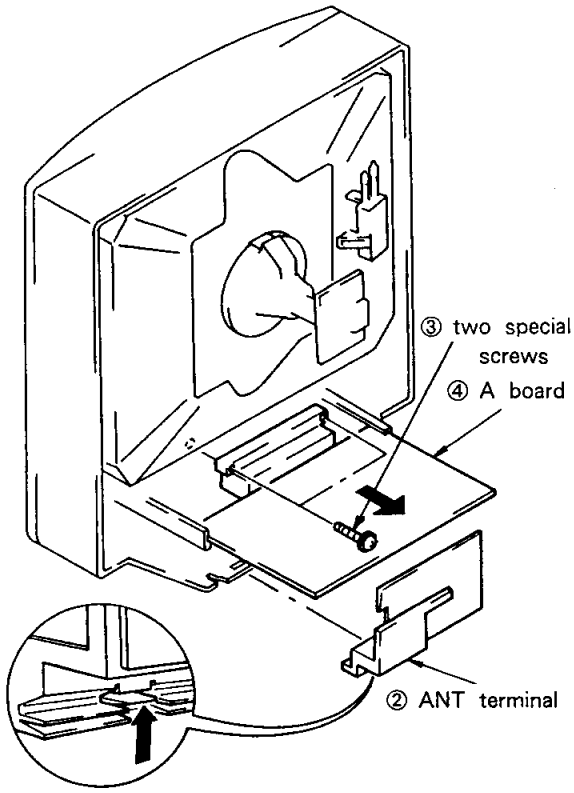
To add the channels that could not be preset with this automatic programming because their signal strength was too weak, **or to erase unnecessary channels,** follow the steps in "To preset only the desired channels or to erase unnecessary channels" on the next page.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL

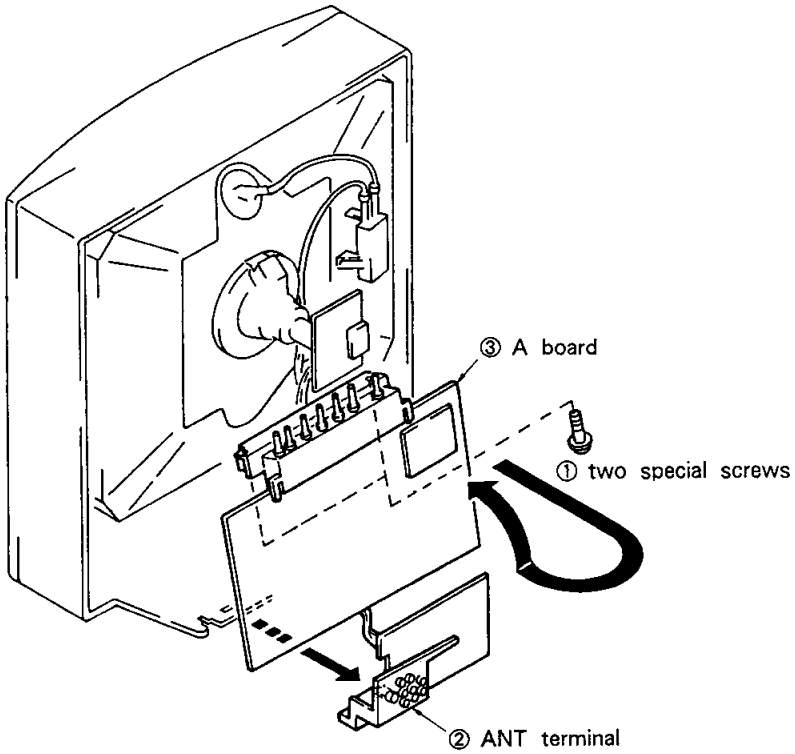


2-2. A BOARD REMOVAL

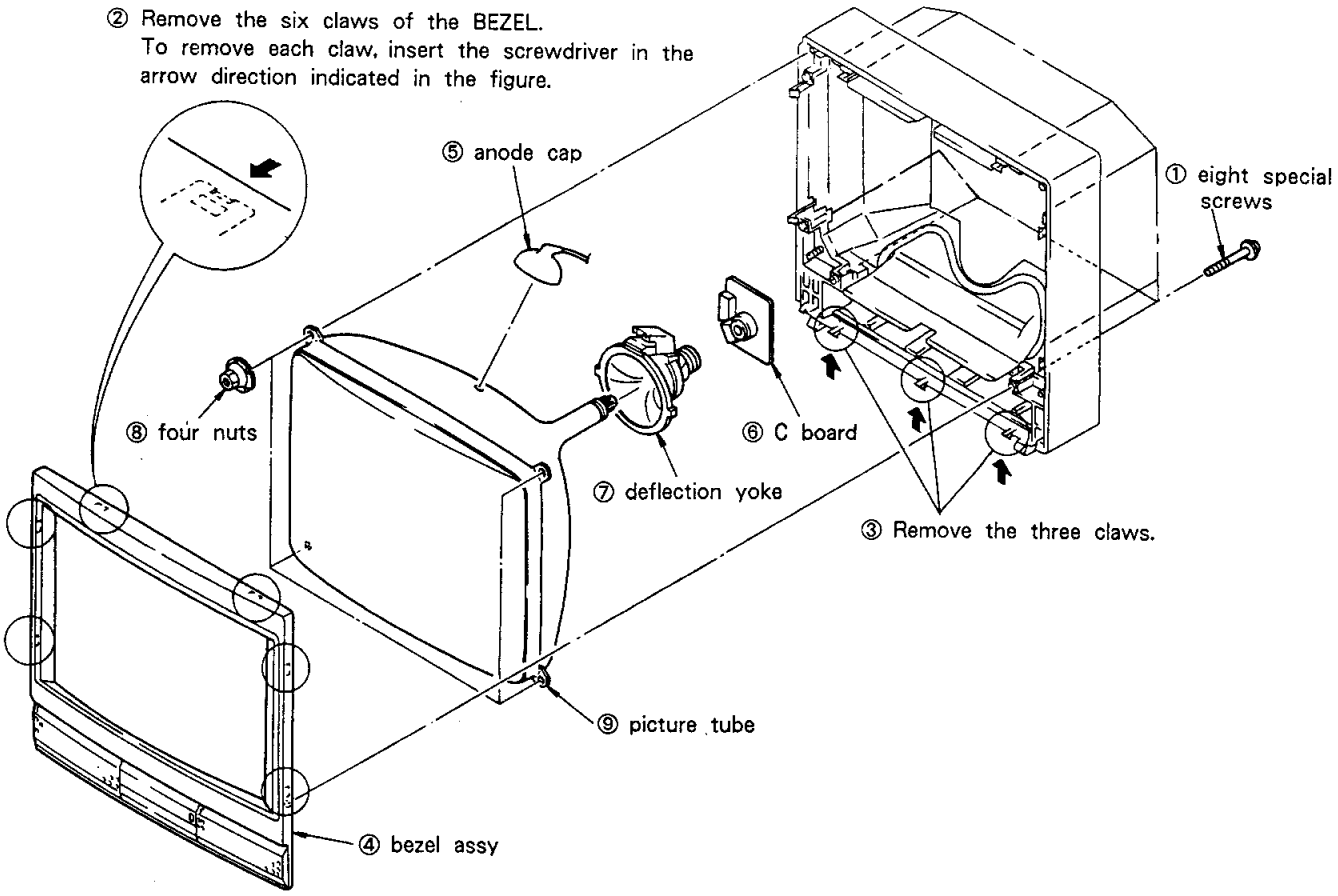


① Remove the claws as the bottom of the ANT terminal board.

2-3. SERVICE POSITION

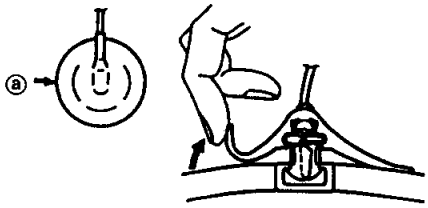


2-4. PICTURE TUBE REMOVAL

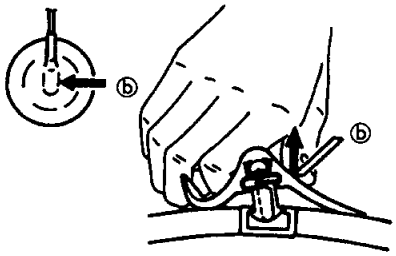

② Remove the six claws of the BEZEL.
To remove each claw, insert the screwdriver in the arrow direction indicated in the figure.
⑤ anode cap
① eight special screws
⑧ four nuts
⑥ C board
⑦ deflection yoke
③ Remove the three claws.
⑨ picture tube
④ bezel assy

2-5. REMOVAL OF ANODE CAP

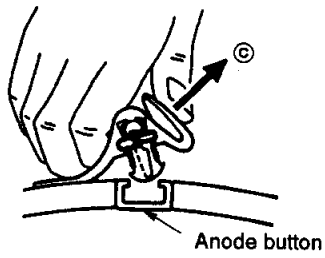
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



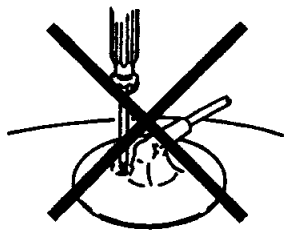
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

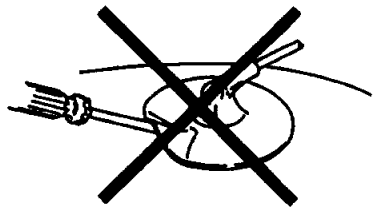


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material !
② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

PICTURE control . . . . . RESET

BRIGHTNESS control . . . . . center

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

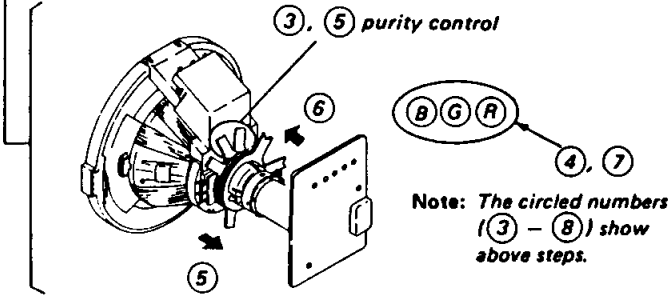
Note: Test Equipment Required.
1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

3-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

1. Turn on set power supply and receive an all-white signal.
2. Evenly degauss the entire screen.
3. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Figure 3-1.
4. Set BKG VR Ⓡ to maximum and set Ⓑ and Ⓖ to minimum.
5. Move the deflection yoke back, and adjust the purity control so that Ⓡ is in the center and Ⓖ and Ⓑ are at the sides, evenly. (Figure 3-2.)
6. Move the deflection yoke forward so that the entire screen is red.
   * If the deflection yoke is pushed all the way to the CRT then moved slightly back, landing adjustment is easier.
7. Substitute Ⓖ, then Ⓑ for Ⓡ in step 4 and check landing.
8. Rotate Ⓡ, Ⓖ and Ⓑ once each and check landing.
9. When landing is not right, adjust the purity control and use magnets as shown in Figure 3-3. then repeat steps 7 and 8.
10. When a magnet is used, be sure to perform step 2, and tighten deflection yoke mounting screw loosely.



Note: *The circled numbers (③ – ⑧) show above steps.*

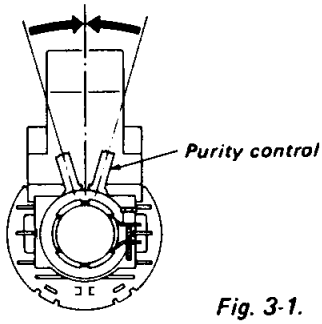


Fig. 3-1.

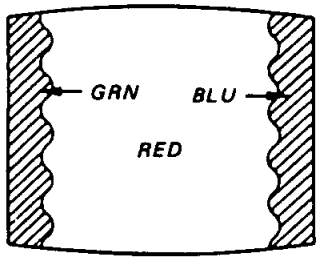


Fig. 3-2.

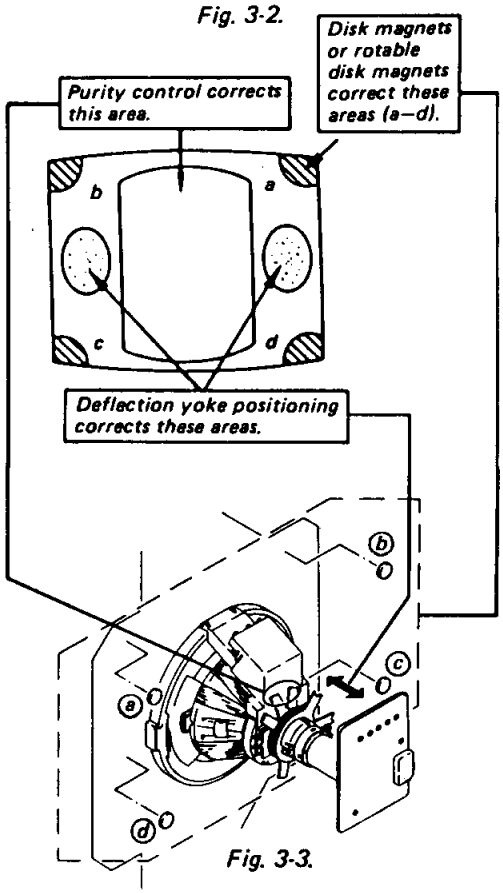


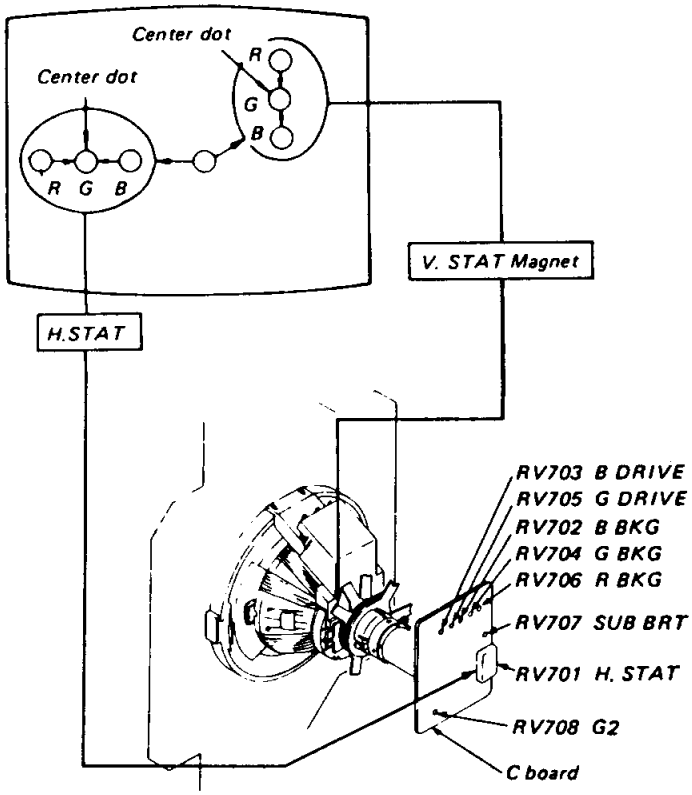
Fig. 3-3.

3-2. CONVERGENCE

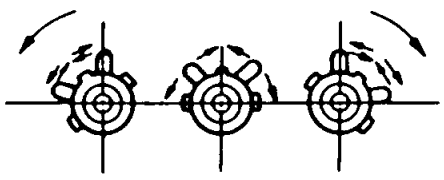
Preparation:

- Before starting, perform FOCUS, H. SIZE, V. SIZE and V. LIN adjustments.
- Set BRIGHTNESS control to fully counterclockwise.
- Feed in the dot pattern.

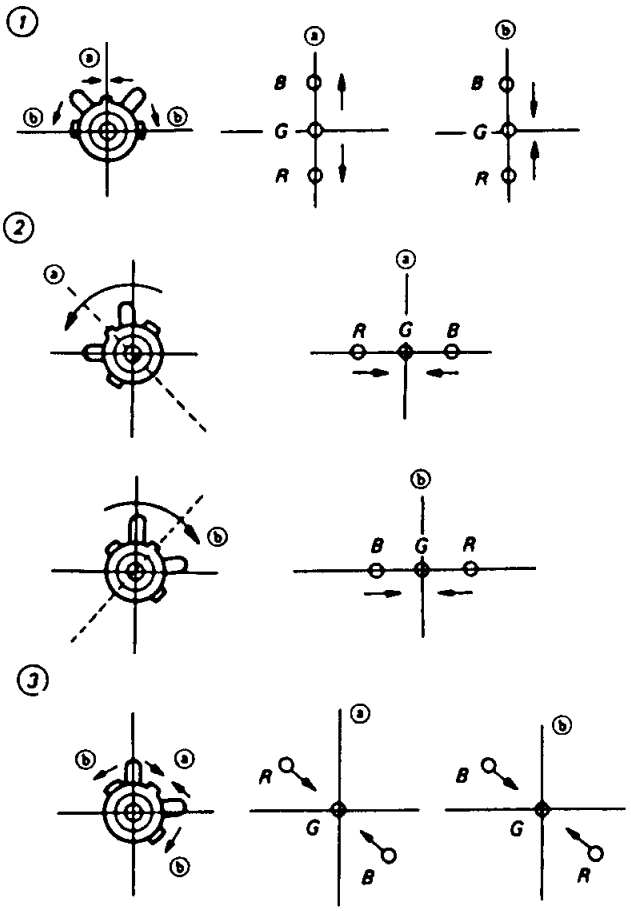
(1) Horizontal and Vertical Static Convergence



1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen (Horizontal movement)
2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen (Vertical movement)
3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
   - Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.

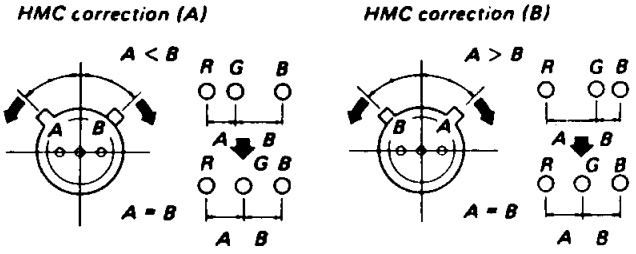


4. When the V. STAT magnet is moved in the direction of arrow (a) and (b), Red, Green and Blue dots move as shown below.

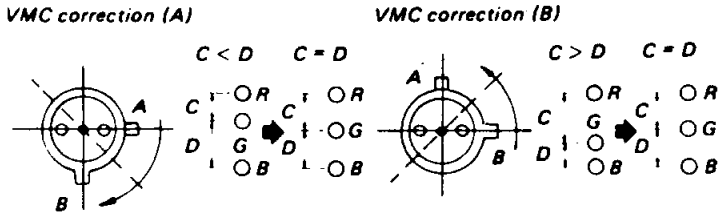


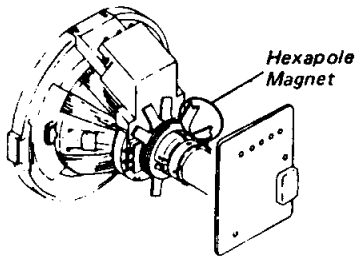
- **HMC and VMC correction for Hexapole Magnet.**

1. HMC (Horizontal. Mis. convergence) correction and motion of the Electron Beam with the Hexapole Magnet.



2. VMC (Vertical, Mis, convergence) correction and motion of the Electron Beam with the Hexapole Magnet.





(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown in Fig. 3-4.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

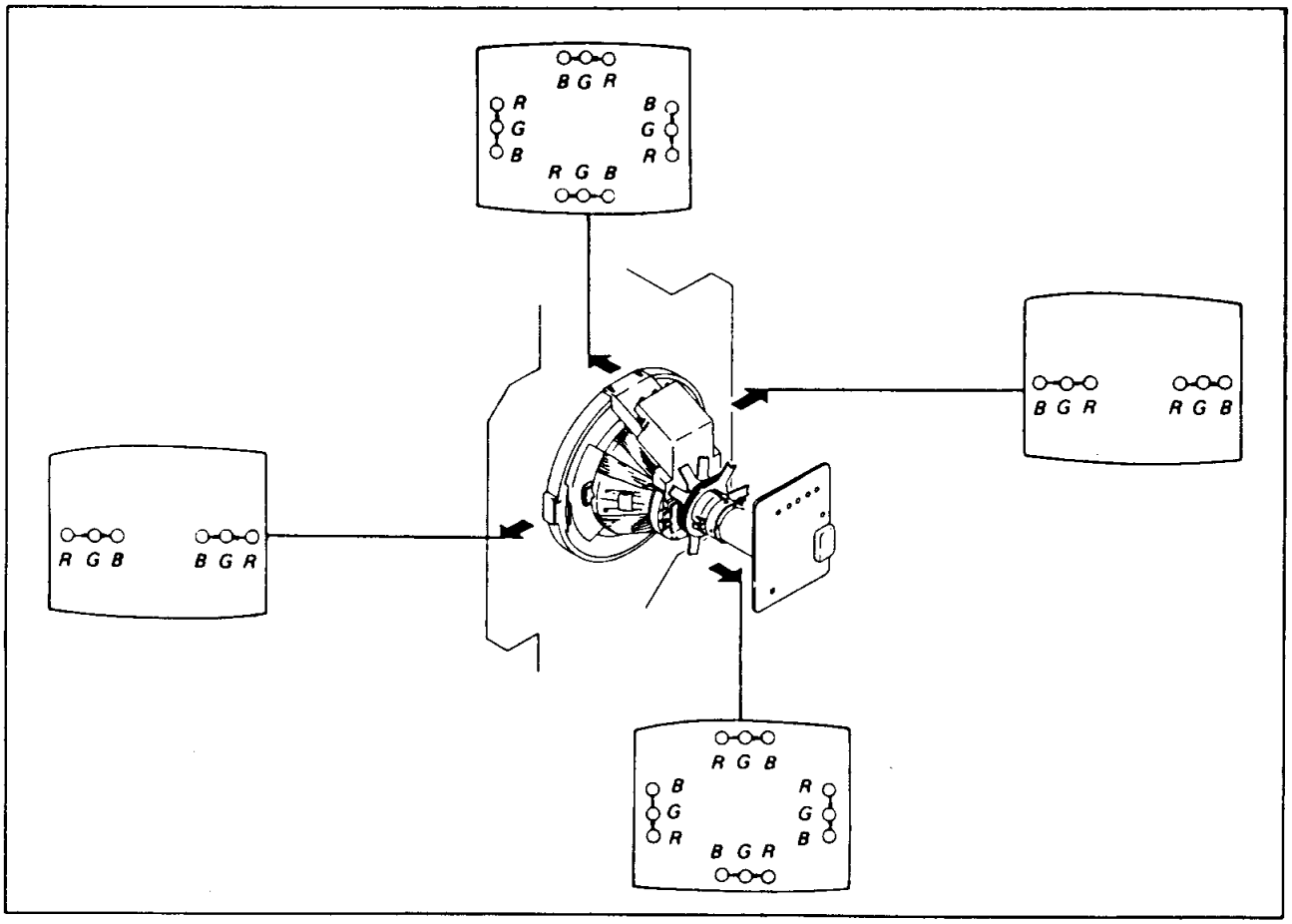
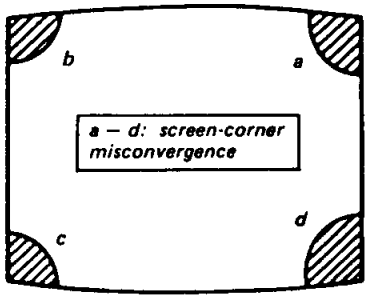
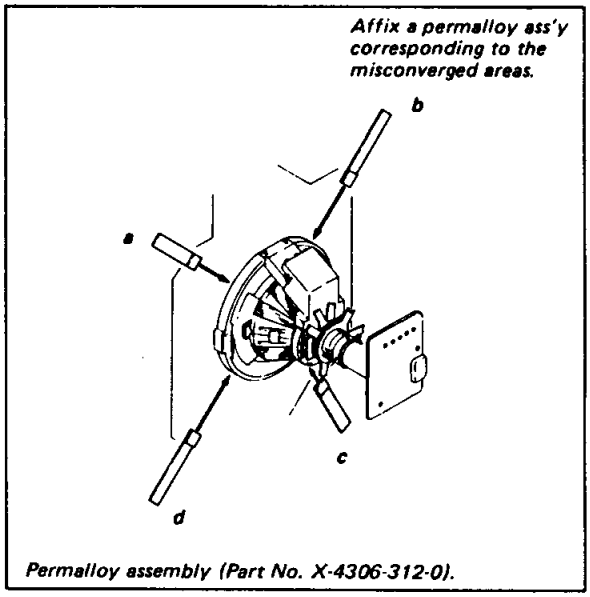


Fig. 3-4.

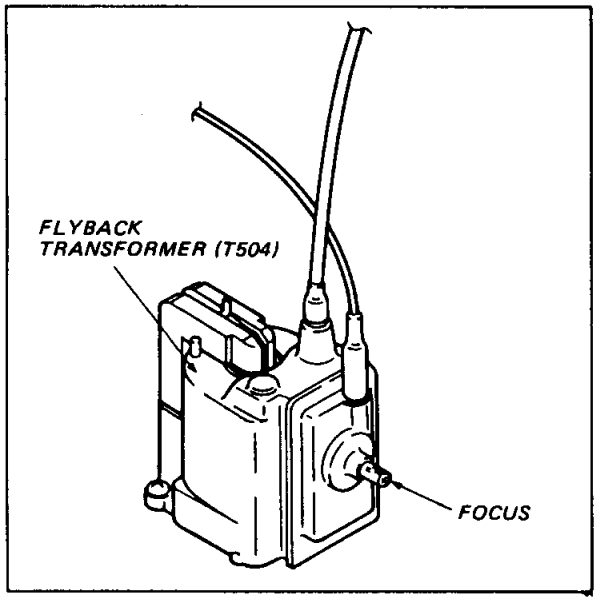
(3) Screen-corner Convergence





3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.



3-4. WHITE BALANCE

- Input dot signal from pattern generator.
- PICTURE button 80%
  BRIGHTNESS control . . . . . click position

[SCREEN (G2)]

1. Adjust BKG VRs (RV702, RV704, and RV706) so that voltages on the red, green and blue cathodes are 180 V dc with an oscilloscope as shown in Fig. 3-5.

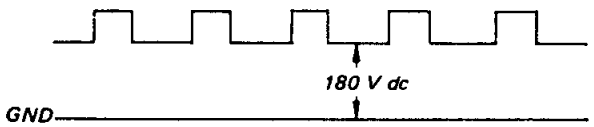


Fig. 3-5.

2. Observe the screen and adjust RV708 (SCREEN) to obtain the faintly visible background of dot signal. Note the color that first becomes visible by turning SCREEN VR.
   Do not turn a BKG control for this color.

[WHITE BALANCE]

1. Input entirely white signal from pattern generator.
2. Set the PICTURE button to obtain the faintly visible raster on the screen.
3. Observe the screen and adjust the other two BKG VRs for best white balance.
4. Set the PICTURE button at maximum.
5. Observe the screen and adjust the DRIVE VRs (RV703, RV705) for best white balance.
6. Repeat steps 2 through 5 several times.

KV-27TS30
RM-764

SECTION 4
SAFETY RELATED ADJUSTMENT

⊠R381, CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).

IC301, PM501, R512, R381, R382, R378, R379, R344

(1) Preparation before confirmation

1. Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHTNESS controls to maximum.
2. Confirm that the voltage of the check terminal of A-14 (TP85) is more than 13.0 V DC when the set is operating normally with 120 V AC supply.

(2) Hold-down operation confirmation

1. Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1600 ±20 μA with PICTURE and BRIGHT etc controls.
2. Apply DC voltage of over 17.37 V gradually to the check terminal of A-14 (TP85) via 1T40 from the DC stavilized power source. Confirm that the minimum voltage is less than 18.37 V DC whereby the raster disappears during operation of hold-down circuit.

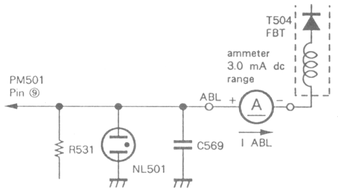
NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Turn the POWER switch ON, and receive dot signals and adjust ABL current to 190 ±10 μA with PICTURE and BRIGHT etc controls.
4. Apply DC voltage of over 18.46 V gradually to check terminal of A-14 (TP85) via 1T40 from the DC stavilized power source. Confirm that the minimum voltage is less than 19.46 V DC whereby the raster disappears during operation of hold-down circuit.

NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

(3) Hold-down readjustment

When step (2) is not satisfied, readjustment should be performed by altering the resistance value of R381 (a component marked with ⊠).



CONFIRMATION WHEN REPLACING H. V. R. (HIGH-VOLTAGE REGISTOR)

The following adjustments should always be performed with reference to whether an X-ray radiation control circuit is connected or not, when replacing H. V. R. (High-Voltage Registor)

*This check is to be performed when H. V. R. only is replaced, and has no relation to the hold-down circuit readjustment for replacement of parts marked ◪.

(1) Connection confirmation

1. Turn the POWER switch ON, and receive entirely white signal and set the PICTURE and BRIGHTNESS controls to maximum.
2. When the set is operating normally with 120 V AC supply, confirm the voltage of the TP85 is over 13.0 V DC.

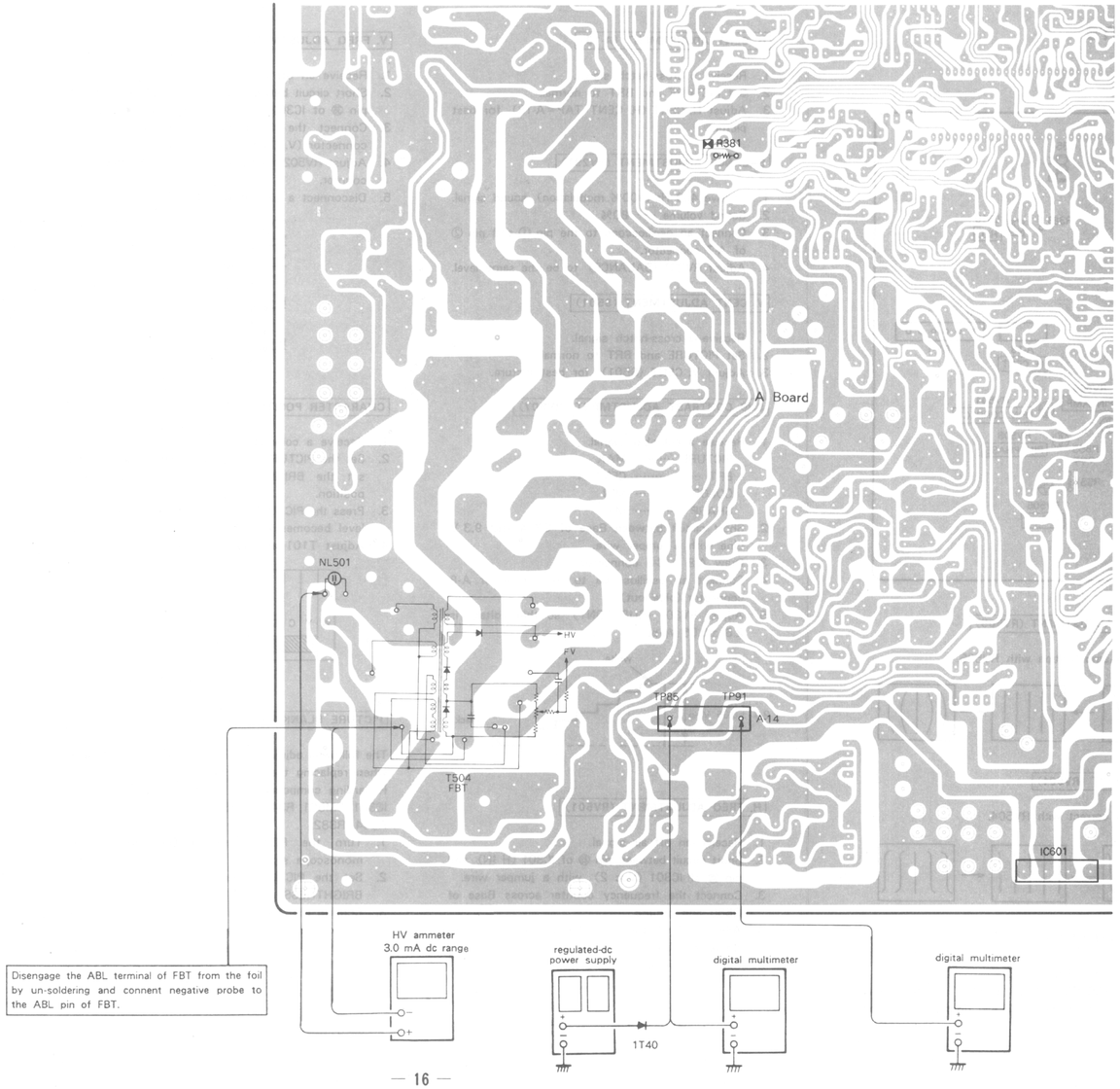
*Use a digital multimeter whose input impedance over 100 MΩ when confirming the voltage of the protector terminal of H. V. R.

+B VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601.

(1) The +B voltage confirmation

1. Supply 130 $^{+3}_{-0}$ V AC to with variable auto-transformer.
2. Receive entirely monoscope signals.
3. Set the PICTURE control in to 80% and BRIGHTNESS control in to DETENT.
4. Confirm the voltage of TP91 is less than 137.80 V DC.
5. If step 4 is not satisfied, replace IC601 and repeat above steps.

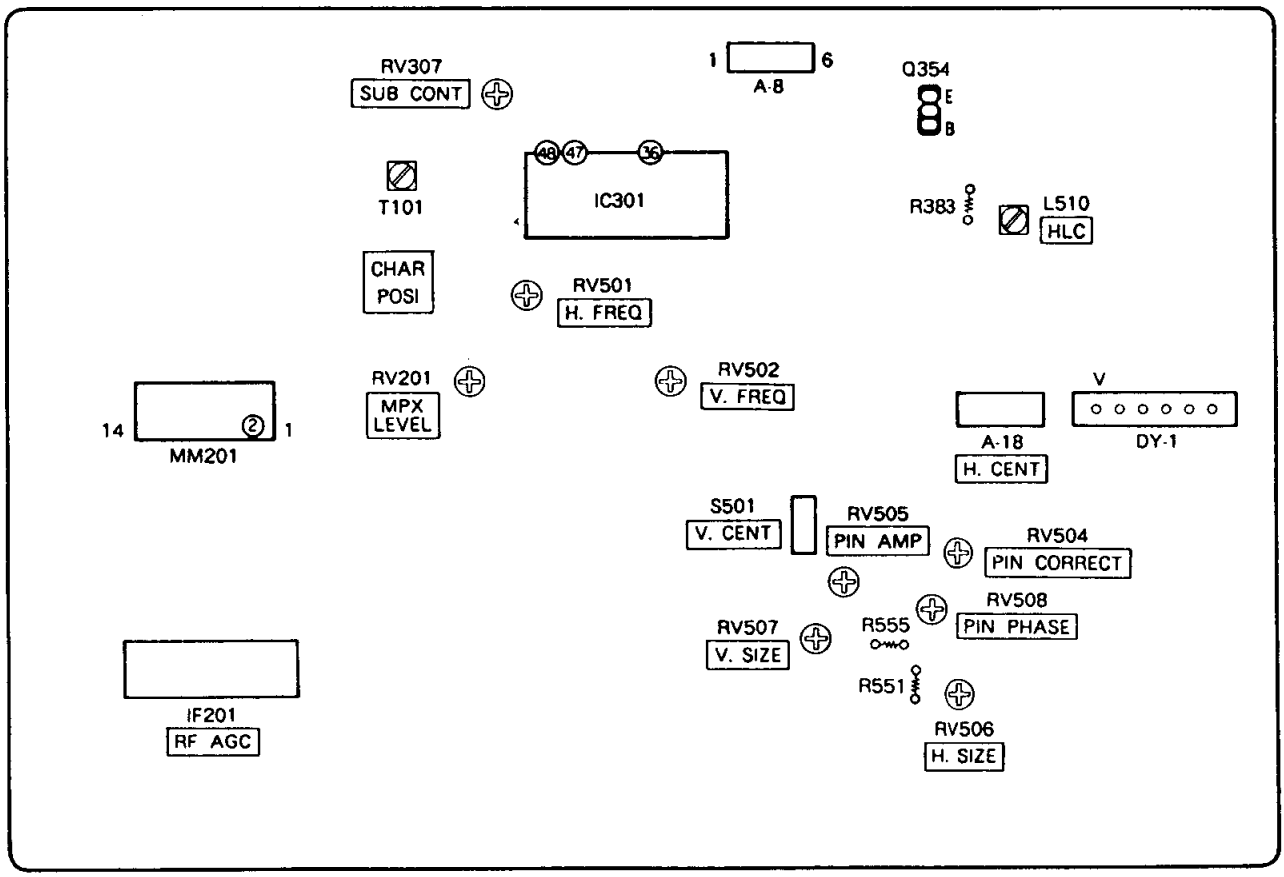


Disengage the ABL terminal of FBT from the foil by un-soldering and connent negative probe to the ABL pin of FBT.

SECTION 5
CIRCUIT ADJUSTMENTS

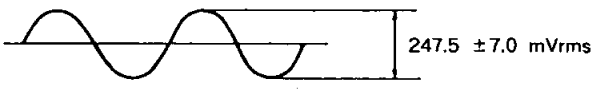
5-1. A BOARD ADJUSTMENTS

– Component Side –



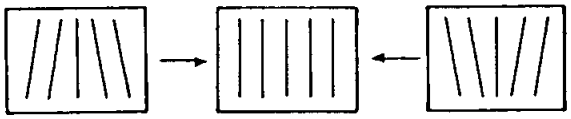
MPX LEVEL ADJUSTMENT (RV201)

1. Receive 400 Hz (100% modulation) sound signal.
2. Connect an RMS meter to pin ② of MM201.
3. Adjust RV201 so that the MPX level is 247.5 ±7.0 mVrms.



PIN PHASE ADJUSTMENT (RV508)

Adjust pin phase with RV508.



PIN AMP ADJUSTMENT (RV505)

Adjust pin amplification with RV505.

PIN CORRECT (RV504)

Adjust pin correct with RV504.

RF AGC ADJUSTMENT

1. Receive an off-air signal.
2. Adjust AGC VR (AGC VR of IF201) so that snow noise and cross-modulation just disappear from the picture.

H. CENT ADJUSTMENT (A-18)

1. Receive a cross-hatch signal.
2. Set PICTURE and BRT to normal.
3. Adjust H. CENT (H. CENT TAP=A-18) for best picture.

BALANCE ADJUSTMENT (RV291)

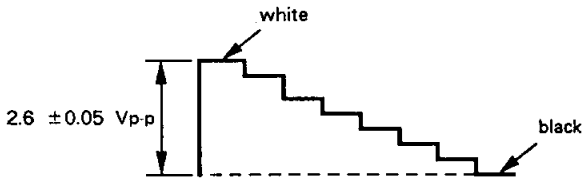
1. Receive 400 Hz (100% modulation) sound signal.
2. Sound volume ····· 80%
3. Connect an oscilloscope to the pin ① and pin ② of A-7 connector.
4. Adjust RV291 (BALANCE) to be the same level.

V. CENT ADJUSTMENT (S501)

1. Receive a cross-hatch signal.
2. Set PICTURE and BRT to normal.
3. Adjust V. CENT (S501) for best picture.

SUB CONTRAST ADJUSTMENT (RV307)

1. Receive a color-bar signal.
   PICTURE ····· MAX
   BRT ····· CENTER
   COLOR ····· MIN
   SHARP ····· MIN
2. Short circuit between Base of Q354 and 9.3 V Line with a jumper wire.
3. Draw A-8 – C-3 connector.
4. Connect an oscilloscope to the pin ④ of A-8 connector (blue out).
5. Adjust RV307 (SUB CONT) so that voltage is 2.6 ±0.05 Vp-p.

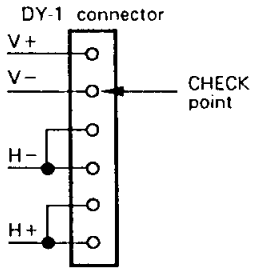


H. FREQ ADJUSTMENT (RV501)

1. Receive an off air signal.
2. Short circuit between pin ㊽ of IC301 (H IN) and pin ㊱ of IC301 (Vcc 2) with a jumper wire.
3. Connect the frequency counter across Base of Q550 and ground.
4. Adjust RV501 for 15.734 kHz ±50 Hz on the frequency counter.
5. Disconnect a jumper wire from IC301.

V. FREQ ADJUSTMENT (RV502)

1. Receive an off air signal.
2. Short circuit between pin ㊼ of IC301 (V IN) and pin ㊱ of IC301 (Vcc 2) with a jumper wire.
3. Connect the frequency counter across DY-1 connector (V. DY ⊖) and ground.
4. Adjust RV502 for 55.0 ±0.3 Hz on the frequency counter.
5. Disconnect a jumper wire from IC301.



CHARACTER POSITION (T101)

1. Receive a color-bar signal.
2. Set the PICTURE control to maximum setting and set the BRIGHTNESS control to center click position.
3. Press the PICTURE control button until this picture level becomes maximum.
4. Adjust T101 as shown in Fig. 1.

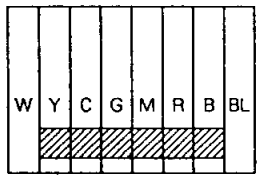


Fig. 1

PICTURE BLANKING CONFIRMATION

The following adjustments should always be performed when replacing the following components.
Regarding components of ※R383.
IC301, PM501, R341, D506, R380, R383, R378, R379, R344, R382

1. Turn the POWER switch ON, and receive monoscope signal.
2. Set the PICTURE control in to 80% and the BRIGHTNESS control in to DETENT.
3. Confirm that the picture is blanked till +B voltage is more than 107.9 V DC.
4. Confirm that the picture is not blanked when INPUT voltage is more than 96 V AC.

V. SIZE CONFIRMATION

The following adjustments should always be performed when replacing the following components.
Regarding components of ※R555 (V. SIZE).
DY, IC301, R514, R515, R555, R556, RV507, T504

1. Turn the POWER switch ON, and receive monoscope signal.
2. Set the PICTURE control in to 80% and the BRIGHTNESS control in to DETENT.
3. Adjust RV507 (V.SIZE) so that the V.SIZE becomes minimum, and confirm that the raster size is 29 cm or more.

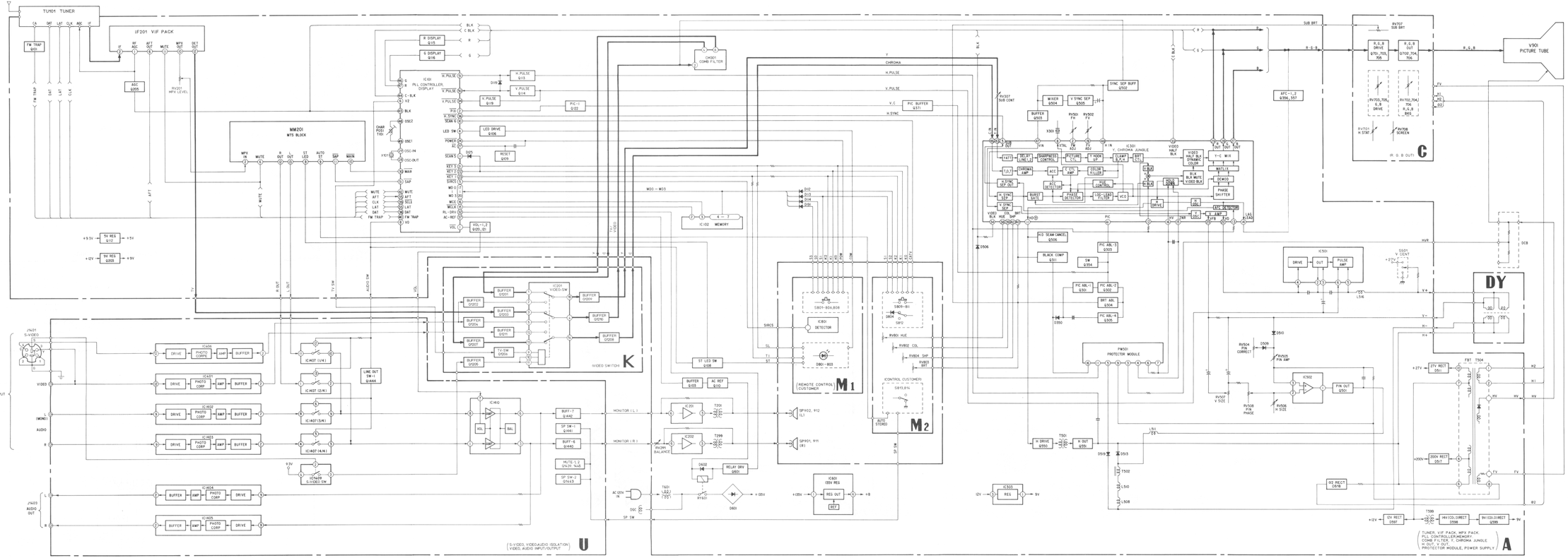
H. SIZE CONFIRMATION

The following adjustments should always be performed when replacing the following components.
Regarding components of ※R551 (H. SIZE).
C563, C565, DY, R551, R554, R578, RV506, T504

1. Turn the POWER switch ON, and receive monoscope signal.
2. Set the PICTURE control in to 80% and the BRIGHTNESS control in to DETENT.
3. Confirm that the H.SIZE at minimum should not exceed 16.4 frames by adjusting RV506 (H. SIZE).

SECTION 6 DIAGRAMS

6-1. BLOCK DIAGRAM


TU101 TUNER
IF201 VIF PACK
MM201 MTS BLOCK
IC101 PLL CONTROLLER, DISPLAY
CH001 COMB FILTER
IC102 MEMORY
IC201 VIDEO-SW
IC301 Y, CHROMA JUNGLE
IC501 DRIVE OUT PULSE AMP
IC502 PIN AMP
IC503 REG
IC601 135V REG
PIC BUFFER Q311
PIC ABL-1 Q303
PIC ABL-2 Q302
PIC ABL-3 Q303
PIC ABL-4 Q305
BRT ABL Q304
SW Q354
BLACK COMP Q351
H.D SEAM CANCEL Q506
SYNC SEP BUFF Q502
MIXER Q504
V SYNC SEP Q505
BUFFER Q503
RV501 FH
RV502 FV
RV507 SUB BRT
R,G,B DRIVE Q702,705,706
R,G,B OUT Q702,704,706
RV703,705 R,B DRIVE
RV702,704 706 R,B BIAS
RV707 SUB BRT
RV708 SCREEN
V501 PICTURE TUBE
DY
FBT T504
FLYBACK T501
RV504 PIN CORRECT
RV505 PIN AMP
RV506 H SIZE
RV507 V SIZE
RV508 PIN PHASE
PW501 PROTECTOR MODULE
PIN OUT Q501
H OUT Q551
H DRIVE Q550
27V RECT D551
200V RECT D557
92 RECT D618
12V RECT D597
14V CONVERGENCE T598
9V CONVERGENCE T599
T501 FLYBACK
T504 FBT
T598 14V CONVERGENCE
T599 9V CONVERGENCE
SUB BRT
R,G,B
H.PULSE
V.PULSE
V.C
H.SYNC
CHROMA
Y
BLK
5V REG Q112
9V REG Q905
+9.3V
+12V
+5V
+9V
+135V
+B
+27V
+200V
+14V
+9V
+12V
9.3V
12V
5V
9V
92
MUTE
ANT
VIDEO SW
V.SW
R OUT
OUT
VOL
MONITOR (L)
MONITOR (R)
SP SW
ST LED SW
AC REF
RELAY DRV Q601
AC 120V IN
INPUT
VIDEO
AUDIO
(MONO)
S-VIDEO
J1401 S-VIDEO
J1403 AUDIO OUT
LINE OUT SW-1 Q1444
IC1409 S-VIDEO SW
IC1410
IC1407 (1/4)
IC1407 (2/4)
IC1407 (3/4)
IC1407 (4/4)
IC1401
IC1402
IC1403
IC1404
IC1405
IC1406
BUFF-7 Q1442
SP SW-1 Q1441
BUFF-6 Q1440
MUTE-1,2 Q1439, 1445
SP SW-2 Q1443
IC20
IC200
T201
T299
T501
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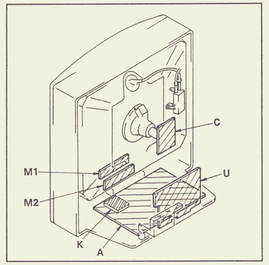
6-2. CIRCUIT BOARDS LOCATION



Note :

- All capacitors are in μF unless otherwise noted. pF : μμF
  50WV or less are not indicated except for electrolytics.
- All resistors are in ohms.
- △ : internal component.
- : nonflammable resistor.
- : adjustment for repair.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : ¼W

Reference information

RESISTOR	:	RN	METAL FILM
	:	RC	SOLID
	:	FPRD	NONFLAMMABLE CARBON
	:	FUSE	NONFLAMMABLE FUSIBLE
	:	RS	NONFLAMMABLE WIREWOUND
	:	RB	NONFLAMMABLE CEMENT
COIL	:	LF-BL	MICRO INDUCTOR
CAPACITOR	:	TA	TANTALUM
	:	PS	STYROL
	:	PP	POLYPROPYLENE
	:	PT	MYLAR
	:	MPS	METALIZED POLYESTER
	:	MPP	METALIZED POLYPROPLENE
	:	ALB	BIPOLAR
	:	ALT	HIGH TEMPERATURE
	:	ALR	HIGH RIPPLE

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved.(Refer to R381 adjustment on Page 15-17.) When replacing the part in below table, be sure to perform the related adjustment.

(HOLD DOWN)

Part replaced ( )	Adjustment ( )
IC301, PM501, R512, R381, R382, R378, R379, R344	R381

- Voltages are dc with respect to ground unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ( ) : S VIDEO
- : B+ bus.
- The hold down check point is pin 4 of A-14 connector.
- : signal path.
- ※ : Selected to yield optimum performance.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

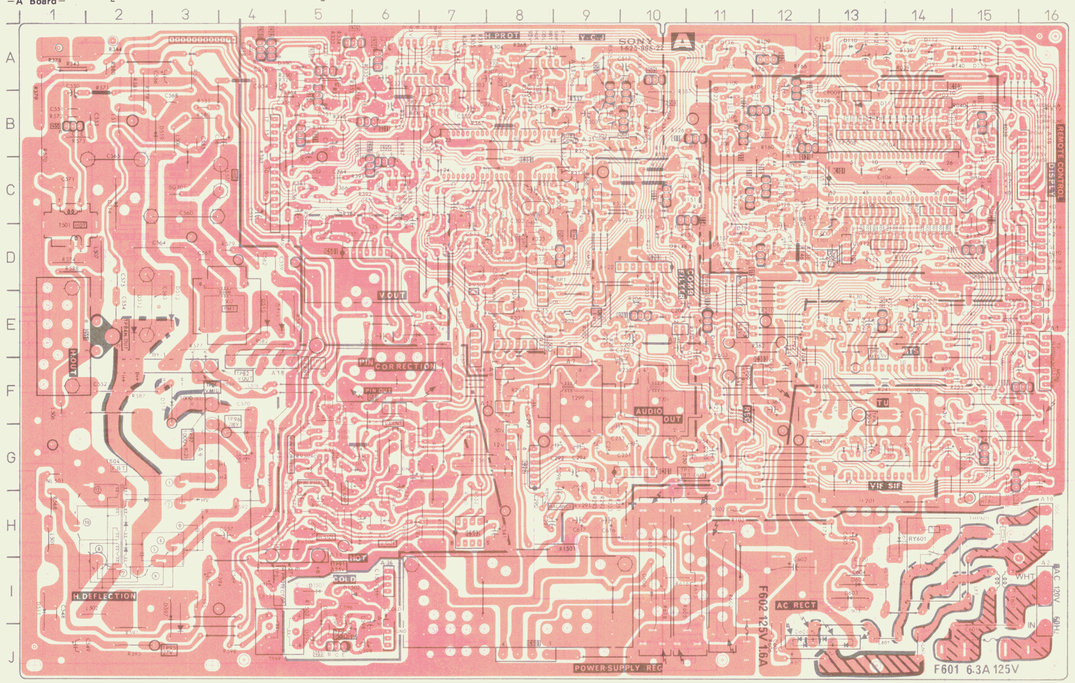
Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

6-3. PRINTED WIRING BOARDS (1)

—CONDUCTOR SIDE—

A TUNER, VIF PACK, MPX PACK, PLL CONTROLLER, MEMORY, COMB FILTER, Y, CHROMA JUNGLE, H OUT, V OUT, PROTECTOR, MODULE, POWER SUPPLY

—A Board—



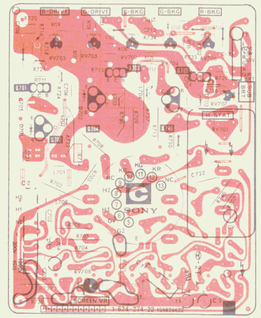
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

A

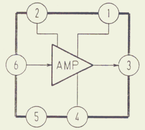
IC		DIODE			
IC101	C-13	D101	F-16	RV502	G-7
IC102	A-14	D112	A-14	RV504	G-5
IC201	G-10	D113	A-15	RV505	G-6
IC202	G-8	D114	A-15	RV506	H-5
IC301	C-8	D115	B-15	RV507	H-6
IC305	F-12	D116	A-11	RV508	H-5
IC501	B-5	D117	E-11		
IC502	H-7	D118	C-10	CONNECTOR	
IC601	J-8	D119	C-11	A1	E-16
		D120	C-10	A2	I-16
TRANSISTOR		D121	D-10	A3	J-6
Q101	F-16	D122	B-11	A5	D-16
Q103	C-12	D123	B-11	A6	F-8
Q106	A-12	D124	B-13	A7	E-9
Q108	D-15	D125	B-13	A8	A-6
Q109	B-15	D128	C-12	A9	G-3
Q110	C-11	D191	A-14	A10	H-16
Q112	E-11	D350	A-5	A11	E-7
Q113	C-10	D351	B-5	A12	C-16
Q114	C-11	D505	A-7	A13	A-9
Q115	G-12	D506	A-7	A14	H-5
Q116	B-11	D508	E-6	A15	E-8
Q119	B-11	D509	G-5	A17	F-8
Q120	A-12	D510	G-6	A18	F-4
Q121	B-12	D511	I-1	A19	B-16
Q122	B-12	D512	E-2	A20	E-16
Q203	E-13	D513	E-3		
Q205	G-15	D514	C-2	MODULE	
Q301	A-4	D515	E-4	MM201	E-14
Q302	A-4	D516	E-4	PM501	C-4
Q303	A-5	D517	G-4		
Q304	A-6	D518	F-3		
Q305	A-6	D519	B-3		
Q311	B-6	D597	I-3		
Q354	B-5	D598	I-5		
Q356	C-6	D599	J-5		
Q357	C-6	D601	J-12		
Q371	B-5	D602	H-14		
Q501	F-6	D603	J-13		
Q502	A-9	D604	I-13		
Q503	B-10	D605	B-11		
Q504	B-10	D646	I-10		
Q505	A-10				
Q506	G-9	VARIABLE RESISTOR			
Q550	B-1	RV201	C-9		
Q551	E-2	RV291	H-9		
Q599	J-5	RV307	B-9		
Q601	G-15	RV501	C-9		

C [R. G. B OUT]

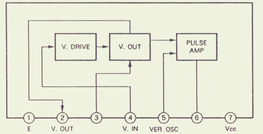
—C Board—



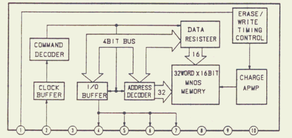
• A BOARD IC201, 202 S14102



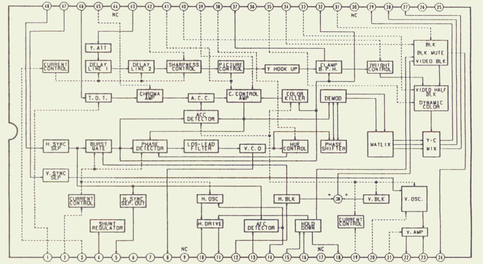
• A BOARD IC501 AN5521

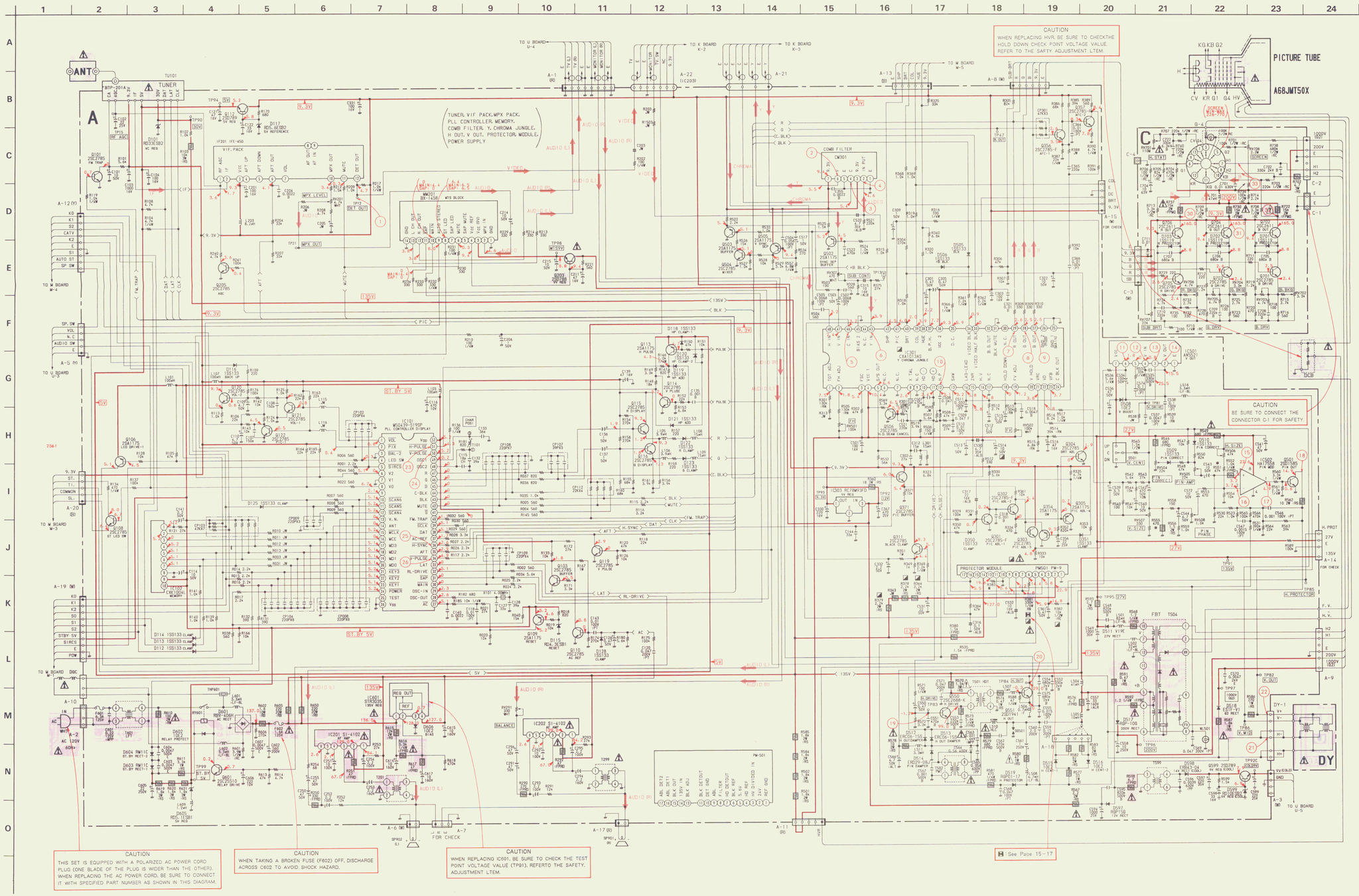


• A BOARD IC102 CXK1004L



• A BOARD IC301 CXA1013AS



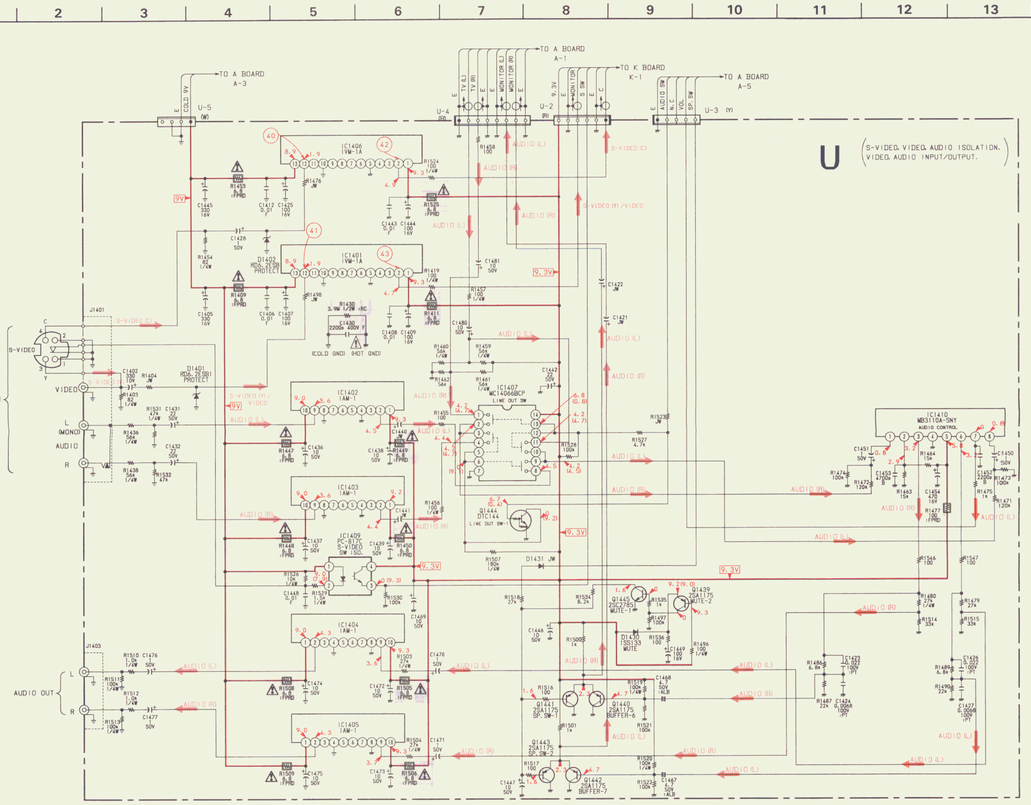

ANT
TUNER
BTP-201A
TU101
TUNER, VIF PACK, MPX PACK, PLL CONTROLLER, MEMORY, COMB FILTER, Y, CHROMA JUNGLE, H OUT, V OUT, PROTECTOR, MODULE, POWER SUPPLY
VIF. PACK
IF201 IFE-450
MPX201 BX-1458
IC101 MSD439-S19SP PLL CONTROLLER DISPLAY
IC107 CXK1056AL MEMORY
COMB FILTER
CM301
IC301 CXA1013AS Y, CHROMA, JUNGLE
IC501 AN5521 Y OUT
IC502 HA17558 PIN AMP
IC201 SI-4102 AF AMP
IC601 STR30135 135V REG
PROTECTOR MODULE
PW501 PW-9
FBT T504
PICTURE TUBE
A68JWT50X
K G KB G2
CV KR G1 G4 HV
CAUTION
WHEN REPLACING HVR, BE SURE TO CHECK THE HOLD DOWN CHECK POINT VOLTAGE VALUE REFER TO THE SAFTY ADJUSTMENT LTEM.
CAUTION
BE SURE TO CONNECT THE CONNECTOR C-1 FOR SAFETY
CAUTION
THIS SET IS EQUIPPED WITH A POLARIZED AC POWER CORD PLUG (ONE BLADE OF THE PLUG IS WIDER THAN THE OTHER). WHEN REPLACING THE AC POWER CORD, BE SURE TO CONNECT IT WITH SPECIFIED PART NUMBER AS SHOWN IN THIS DIAGRAM.
CAUTION
WHEN TAKING A BROKEN FUSE (F602) OFF, DISCHARGE ACROSS C602 TO AVOID SHOCK HAZARD.
CAUTION
WHEN REPLACING IC601, BE SURE TO CHECK THE TEST POINT VOLTAGE VALUE (TP91), REFERTO THE SAFETY. ADJUSTMENT LTEM.
H : See Page 15-17

A BOARD

① 2 Vp-p (H)	② 2 Vp-p (H)	③ 2 Vp-p (H)
④ 2 Vp-p (H)	⑤ 2 Vp-p (H)	⑥ 2 Vp-p (H)
⑦ 5.2Vp-p (H)	⑧ 4.4Vp-p (H)	⑨ 4.2Vp-p (H)
⑩ 2 Vp-p (H)	⑪ 30 Vp-p (V)	⑫ 3.8Vp-p (V)
⑬ 31 Vp-p (V)	⑭ 52 Vp-p (V)	⑮ 1 Vp-p (V)
⑯ 0.8Vp-p (V)	⑰ 6 Vp-p (V)	⑱ 17 Vp-p (V)
⑲ 4 Vp-p (H)	⑳ 900Vp-p (H)	㉑ 150Vp-p (V)
㉒ 6.8Vp-p (V)	㉓ 4 Vp-p (H)	㉔ 4 Vp-p (V)
㉕ 3.8Vp-p (H)	㉖ 40 Vp-p (V)	

C BOARD

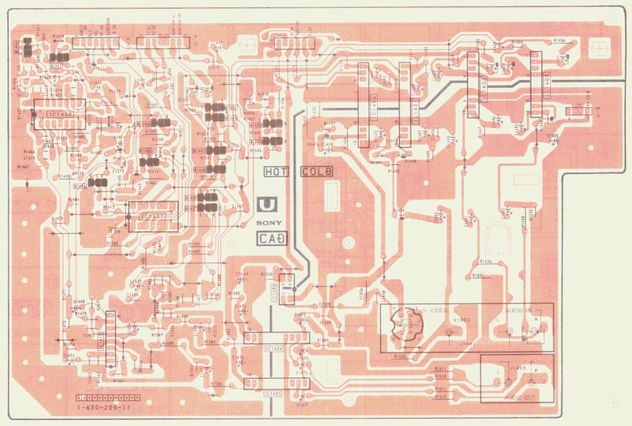
㉚ 64 Vp-p (H)	㉛ 64 Vp-p (H)	㉜ 58 Vp-p (H)
㉝ 12 Vp-p (H)		



U [S-VIDEO, VIDEO, AUDIO ISOLATION, VIDEO, AUDIO INPUT/OUTPUT.]

PRINTED WIRING BOARDS (2)
—CONDUCTOR SIDE—

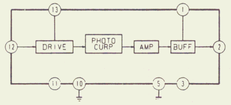
—U Board—



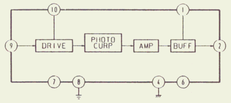
UBOARD

40 1.4Vp-p (H)	41 (S-VIDEO) 6.6Vp-p (H)	42 (S-VIDEO) 0.8Vp-p (H)
43 (S-VIDEO) 1.4Vp-p (H)		

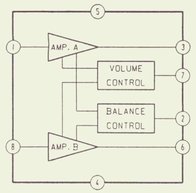
• U BOARD IC1401, 1406 IVM-1

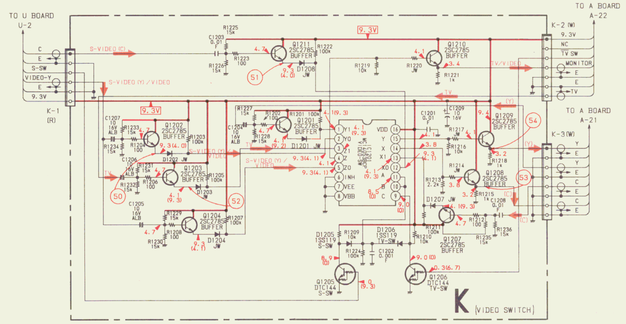


• U BOARD IC1402—1405 IAM-1



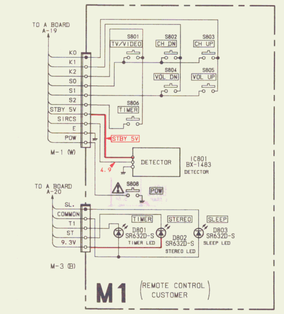
• U BOARD IC1410 MB3110A

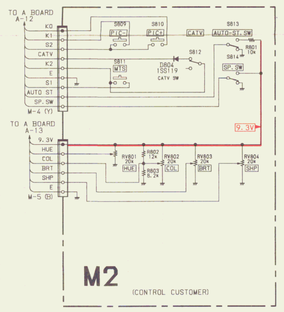




KBOARD

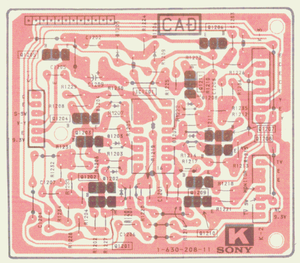
50 (S-VIDEO) 1.4Vp-p (H)	51 0.8Vp-p (H)	52 1.4Vp-p (H)
53 0.8Vp-p (H)	54 (S-VIDEO) Vp-p ( )	





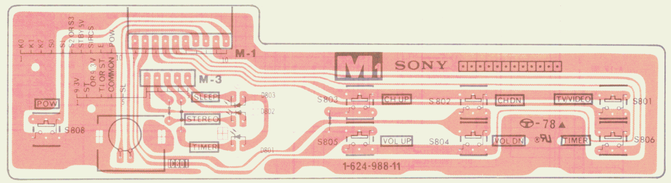
K [VIDEO SWITCH]

—K Board—

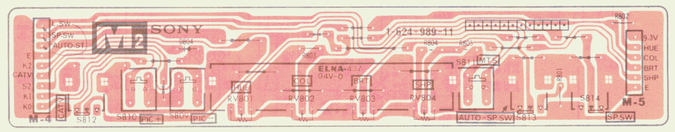


M1 [REMOTE CONTROL CUSTOMER] M2 [CONTROL CUSTOMER]

—M1 Board—

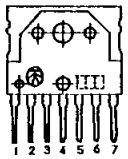


—M2 Board—



6-5. SEMICONDUCTORS

AN5521



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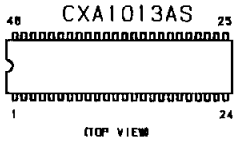
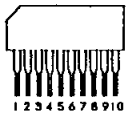
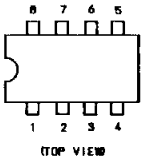


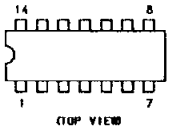
CXK1004L



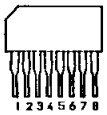
HA17558



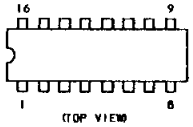
MC14066BCP



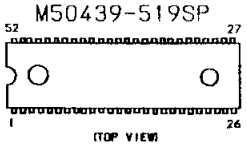
MB3110A



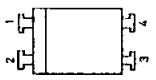
MC14053BCP



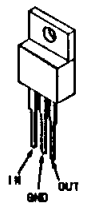
M50439-519SP



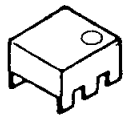
PC817-C



RC78M93FD



SBX1483-59



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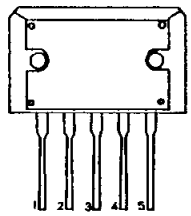
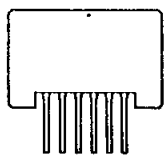
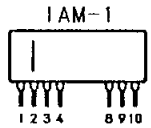


SI-4102



IAM-1



IVM-1

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2SC2551

2SC2611
2SC2688

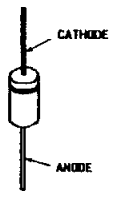
2SD788
2SD789-4

2SD1585-K

2SD1941-06

2SK105A-30

ERB43-04
ESIF
RGP01-17
RGP10G
RGP15G
10E2



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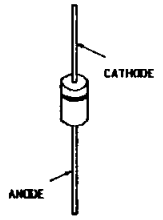

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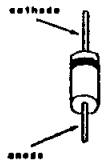

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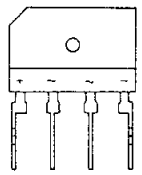
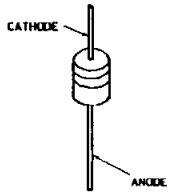


RD4.3ES-B1
RD5.1ES-B1
RD5.6ES-B2
RD6.2ES-B1
RD10ES-B2
RD33ES-B2
1SS119
1SS133



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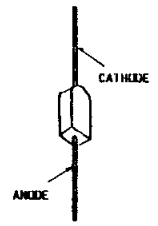
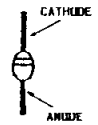


V19E



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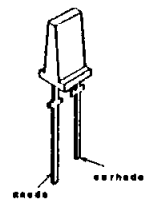


SECTION 7
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

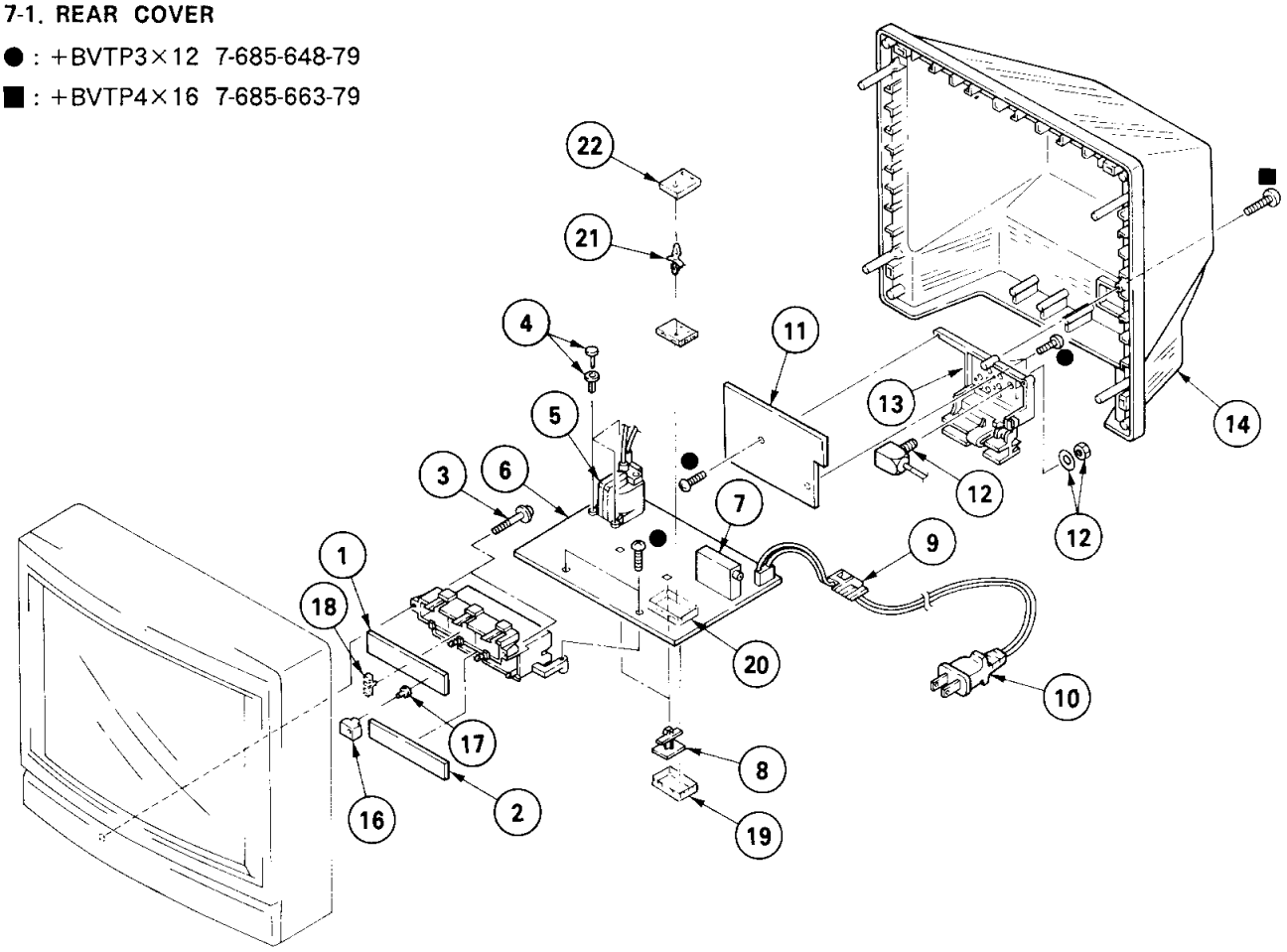
The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-1. REAR COVER

● : +BVTP3×12 7-685-648-79

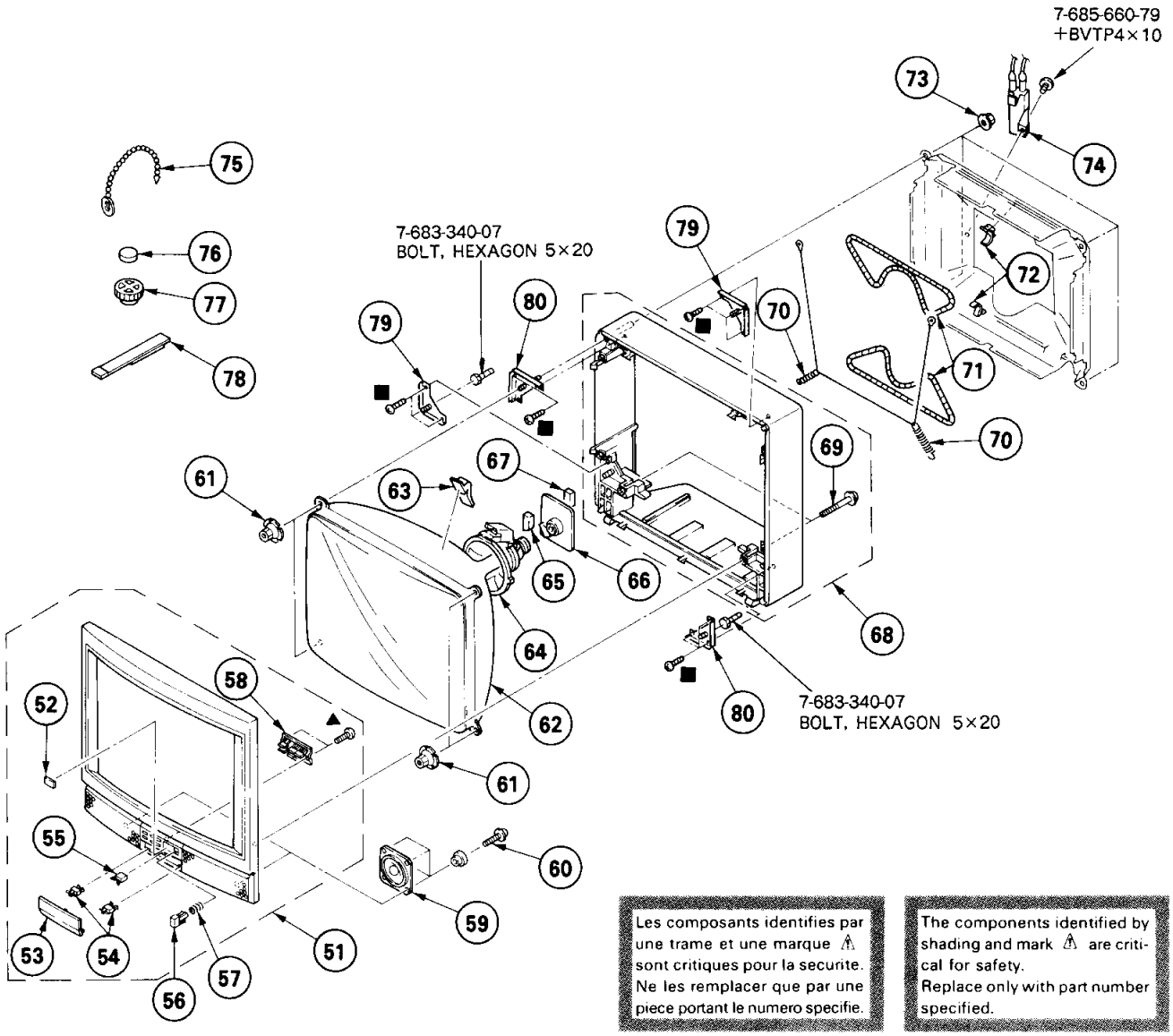
■ : +BVTP4×16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-624-988-11	M1 BOARD	
2	*1-624-989-11	M2 BOARD	
3	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
4	3-531-576-31	RIVET (DIA. 3), NYLON	
5	⚠1-439-372-13	TRANSFORMER ASSY, FLYBACK	
6	*A-1296-583-A	A BOARD, COMPLETE	
7	⚠1-463-771-11	TUNER, ET (BTP-201A)	
8	*4-376-053-01	ANCHOR, PC BOARD	
9	⚠4-388-328-01	GROMMET, AC CORD	
10	⚠1-559-396-11	CORD, POWER	
11	*A-1394-180-A	U BOARD, COMPLETE	
12	⚠1-536-591-61	BLOCK, ANTENNA (USA ONLY)	
	⚠1-536-902-21	ANTENNA BLOCK (CND ONLY)	
13	4-385-813-21	TERMINAL BOARD, ANTENNA	
14	4-388-418-11	COVER, REAR	
16	*4-388-955-01	BRACKET (B), LIGHT GUIDE	
17	*4-374-987-01	GUIDE, LIGHT	
18	*4-368-519-00	HOLDER (3 GANG), LED	
19	*4-376-535-01	CASE (BOTTOM), SHIELD	
20	*4-376-533-01	CASE (MAIN), SHIELD	
21	*3-681-127-00	HOLDER, PC BOARD	
22	*1-630-208-11	K BOARD	

7-2. PICTURE TUBE

■ : +BVTP4×16 7-685-663-79
▲ : +BVTP3×16 7-685-650-79



Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4388-481-4	BEZEL ASSY (BLACK)	52-58
	X-4388-481-6	BEZEL ASSY (WOOD) (USA ONLY)	52-58
52	4-388-403-01	PLATE, TRANSPARENT	
53	4-388-409-01	DOOR, CONTROL	
54	3-703-035-11	SHAFT, LID	
55	4-386-710-01	CATCHER, PUSH	
56	4-388-407-01	BUTTON (B), POWER	
57	3-561-888-02	SPRING, COMPRESSION	
58	4-388-411-01	BUTTON (B), MULTI	
59	1-503-918-11	SPEAKER	
60	4-388-477-01	SCREW (3X16), TAPPING	
61	4-376-980-01	NUT, SPECIAL, PICTURE TUBE	
62	⚠ 8-737-753-05	PICTURE TUBE (A68JMT50X)	
63	3-703-961-01	SPACER, DY	
64	⚠ 1-451-275-11	DEFLECTION YOKE (Y28PFA)	
65	*4-379-167-01	COVER (MAIN), CV	
66	*A-1330-838-A	C BOARD, COMPLETE	
67	*4-379-160-01	COVER (REAR LID), CV	
68	4-388-417-11	CABINET (WOOD) (USA ONLY)	
	4-388-417-72	CABINET (BLACK)	
69	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
70	4-369-318-00	SPRING, TENSION	
71	⚠ 1-426-350-21	COIL, DEMAGNETIZATION	
72	*4-371-629-01	STOPPER, WIRE	
73	4-306-034-00	FLANGE NUT, (B) 5MM	
74	⚠ 1-230-940-31	RESISTOR ASSY, HIGH-VOLTAGE	
75	4-308-870-00	CLIP, LEAD WIRE	
76	1-452-032-00	MAGNET, DISK; 10MM ϕ	
77	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
78	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
79	*4-376-989-01	BRACKET (E), PICTURE TUBE	
80	*4-379-197-01	BRACKET (H), PICTURE TUBE	

SECTION 8
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1296-583-A	A BOARD, COMPLETE	
		**********	
	*4-341-751-01	EYELET	
	*4-341-752-01	EYELET	
	*4-376-533-01	CASE (MAIN), SHIELD	
	*4-376-535-01	CASE (BOTTOM), SHIELD	
		<CONNECTOR>	
A1	*1-566-060-11	PIN, CONNECTOR 8P	
A2	*1-506-348-99	PIN, CONNECTOR 3P	
A3	*1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
A5	*1-566-057-11	PIN, CONNECTOR 5P	
A6	*1-566-054-11	PIN, CONNECTOR 2P	
A7	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A8	*1-566-058-11	PIN, CONNECTOR 6P	
A9	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
A10	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
A11	*1-566-057-11	PIN, CONNECTOR 5P	
A12	*1-566-061-11	PIN, CONNECTOR 9P	
A13	*1-566-058-11	PIN, CONNECTOR 6P	
A14	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
A15	*1-560-125-00	PLUG, CONNECTOR (2.5MM) 5P	
A17	*1-566-054-11	PIN, CONNECTOR 2P	
A18	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P	
A19	*1-566-062-11	PIN, CONNECTOR 10P	
A20	*1-566-057-11	PIN, CONNECTOR 5P	
DY1	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P	
		<CAPACITOR>	
C101	1-123-875-11	ELECT 10MF 20% 50V	
C102	1-126-233-11	ELECT 22MF 20% 25V	
C103	1-124-360-00	ELECT 1000MF 20% 16V	
C104	1-126-101-11	ELECT 100MF 20% 16V	
C107	1-101-361-00	CERAMIC 150PF 5% 50V	
C108	1-101-361-00	CERAMIC 150PF 5% 50V	
C109	1-124-927-11	ELECT 4.7MF 20% 50V	
C110	1-124-927-11	ELECT 4.7MF 20% 50V	
C114	1-123-875-11	ELECT 10MF 20% 50V	
C115	1-162-205-31	CERAMIC 18PF 5% 50V	
C116	1-124-472-11	ELECT 470MF 20% 10V	
C118	1-106-367-00	MYLAR 0.01MF 10% 100V	
C120	1-106-383-00	MYLAR 0.047MF 10% 200V	
C121	1-124-477-11	ELECT 47MF 20% 16V	
C122	1-124-963-11	ELECT 33MF 20% 16V	
C126	1-124-902-00	ELECT 0.47MF 20% 50V	
C127	1-102-963-00	CERAMIC 33PF 5% 50V	
C128	1-102-965-00	CERAMIC 39PF 5% 50V	
C132	1-102-965-00	CERAMIC 39PF 5% 50V	
C133	1-102-964-00	CERAMIC 36PF 5% 50V	
C135	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C136	1-124-499-11	ELECT 1MF 20% 50V	
C137	1-124-499-11	ELECT 1MF 20% 50V	
C139	1-124-477-11	ELECT 47MF 20% 16V	
C140	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C141	1-124-925-11	ELECT 2.2MF 20% 50V	
C143	1-106-367-00	MYLAR 0.01MF 10% 100V	
C144	1-102-963-00	CERAMIC 33PF 5% 50V	
C201	1-126-101-11	ELECT 100MF 20% 16V	
C204	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C206	1-124-499-11	ELECT 1MF 20% 50V	
C211	1-124-477-11	ELECT 47MF 20% 16V	
C214	1-123-875-11	ELECT 10MF 20% 50V	
C215	1-123-875-11	ELECT 10MF 20% 50V	
C250	1-124-910-11	ELECT 47MF 20% 50V	
C251	1-124-667-11	ELECT 10MF 20% 100V	
C252	1-124-925-11	ELECT 2.2MF 20% 100V	
C253	1-124-799-11	ELECT 2.2MF 20% 160V	
C254	1-124-925-11	ELECT 2.2MF 20% 100V	
C255	1-124-910-11	ELECT 47MF 20% 50V	
C291	1-124-910-11	ELECT 47MF 20% 50V	
C292	1-124-667-11	ELECT 10MF 20% 100V	
C293	1-124-925-11	ELECT 2.2MF 20% 100V	
C294	1-124-799-11	ELECT 2.2MF 20% 160V	
C295	1-124-925-11	ELECT 2.2MF 20% 100V	
C296	1-124-910-11	ELECT 47MF 20% 50V	
C301	1-124-902-00	ELECT 0.47MF 20% 50V	
C302	1-102-961-00	CERAMIC 27PF 5% 50V	
C303	1-126-101-11	ELECT 100MF 20% 16V	
C305	1-124-902-00	ELECT 0.47MF 20% 50V	
C309	1-124-499-11	ELECT 1MF 20% 50V	
C312	1-102-951-00	CERAMIC 15PF 5% 50V	
C315	1-126-320-11	ELECT 10MF 20% 16V	
C316	1-124-766-00	ELECT 0.1MF 20% 50V	
C317	1-124-282-00	ELECT 22MF 20% 16V	
C318	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C321	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C322	1-123-875-11	ELECT 10MF 20% 50V	
C330	1-124-120-11	ELECT 220MF 20% 16V	
C331	1-126-101-11	ELECT 100MF 20% 16V	
C332	1-124-925-11	ELECT 2.2MF 20% 50V	
C355	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C356	1-126-233-11	ELECT 22MF 20% 25V	
C361	1-124-902-00	ELECT 0.47MF 20% 50V	
C364	1-106-367-00	MYLAR 0.01MF 10% 100V	
C365	1-102-978-00	CERAMIC 220PF 5% 50V	
C366	1-106-367-00	MYLAR 0.01MF 10% 100V	
C367	1-124-480-11	ELECT 470MF 20% 25V	
C501	1-126-101-11	ELECT 100MF 20% 16V	
C502	1-106-363-00	MYLAR 0.0068MF 10% 100V	
C503	1-124-499-11	ELECT 1MF 20% 50V	

A

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C504	1-106-385-00	MYLAR	0.056MF	10%	100V
C505	1-106-363-00	MYLAR	0.0068MF	10%	100V
C507	1-102-114-00	CERAMIC	470PF	10%	50V
C508	1-101-006-00	CERAMIC	0.047MF		50V
C509	1-101-006-00	CERAMIC	0.047MF		50V
C510	1-106-367-00	MYLAR	0.01MF	10%	100V
C511	1-106-379-12	MYLAR	0.033MF	10%	100V
C512	1-124-925-11	ELECT	2.2MF	20%	50V
C513	1-124-499-11	ELECT	1MF	20%	50V
C514	1-123-875-11	ELECT	10MF	20%	50V
C515	1-124-464-11	ELECT	0.22MF	20%	50V
C516	1-124-477-11	ELECT	47MF	20%	16V
C517	1-124-499-11	ELECT	1MF	20%	50V
C518	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C520	1-124-277-11	ELECT	4.7MF	20%	35V
C521	1-102-978-00	CERAMIC	220PF	5%	50V
C522	1-102-824-00	CERAMIC	470PF	5%	50V
C530	1-124-277-11	ELECT	4.7MF	20%	35V
C531	1-126-233-11	ELECT	22MF	20%	50V
C532	1-126-320-11	ELECT	10MF	20%	16V
C534	1-124-122-11	ELECT	100MF	20%	50V
C535	1-102-030-00	CERAMIC	330PF	10%	500V
C536	1-124-910-11	ELECT	47MF	20%	50V
C537	1-106-359-00	MYLAR	0.0047MF	10%	100V
C538	1-106-220-00	MYLAR	0.1MF	10%	100V
C539	1-123-382-00	ELECT	3.3MF	20%	50V
C540	1-123-875-11	ELECT	10MF	20%	50V
C541	1-124-910-11	ELECT	47MF	20%	50V
C542	1-124-517-11	ELECT	470MF	10%	50V
C543	1-123-875-11	ELECT	10MF	20%	50V
C544	1-124-927-11	ELECT	4.7MF	20%	50V
C546	1-106-343-00	MYLAR	0.001MF	10%	100V
C547	1-106-347-00	MYLAR	0.0015MF	10%	100V
C548	1-102-212-00	CERAMIC	820PF	10%	500V
C549	1-126-105-11	ELECT	1000MF	20%	35V
C550	1-124-902-00	ELECT	0.47MF	20%	50V
C551	1-102-114-00	CERAMIC	470PF	10%	50V
C552	1-162-115-00	CERAMIC	330PF	10%	2KV
C553	1-102-244-00	CERAMIC	220PF	10%	500V
C554	1-162-116-00	CERAMIC	680PF	10%	2KV
C555	1-106-371-00	MYLAR	0.015MF	10%	100V
C557	1-124-494-00	ELECT	33MF		160V
C558	1-123-947-00	ELECT	10MF	20%	250V
C559	1-106-395-00	MYLAR	0.15MF	10%	200V
C560	1-136-113-00	FILM	2MF	5%	200V
C561	1-124-634-11	ELECT	1MF	20%	250V
C562	1-102-228-00	CERAMIC	470PF	10%	500V
C563	⚠1-136-732-11	FILM	0.021MF	3%	1.4KV
C564	1-136-124-00	FILM	0.56MF	5%	400V
C565	⚠1-136-316-51	FILM	0.056MF	5%	630V
C566	1-124-045-00	ELECT	4.7MF	20%	50V
C567	1-162-318-11	CERAMIC	0.001MF	10%	500V
C568	1-106-383-00	MYLAR	0.047MF	10%	100V
C569	1-106-383-00	MYLAR	0.047MF	10%	200V
C570	1-162-114-00	CERAMIC	0.0047MF		2KV
C571	1-106-383-00	MYLAR	0.047MF	10%	200V
C572	1-123-875-11	ELECT	10MF	20%	50V
C574	1-106-220-00	MYLAR	0.1MF	10%	100V
C575	1-162-116-00	CERAMIC	680PF	10%	2KV
C594	1-124-557-11	ELECT	1000MF	20%	25V
C595	1-102-212-00	CERAMIC	820PF	10%	500V
C596	1-136-558-11	FILM	0.0039MF	10%	630V
C597	1-124-484-11	ELECT	220MF	20%	35V
C598	1-124-963-11	ELECT	33MF	20%	16V
C599	1-124-120-11	ELECT	220MF	20%	25V
C601	⚠1-108-745-52	FILM	0.22MF	20%	125V
C602	1-125-457-11	ELECT(BLOCK)	560MF		200V
C603	1-161-830-00	CERAMIC	0.0047MF		500V
C604	1-161-830-00	CERAMIC	0.0047MF		500V
C605	1-123-948-00	ELECT	22MF	20%	250V
C606	1-126-176-11	ELECT	220MF	20%	10V
C607	1-161-830-00	CERAMIC	0.0047MF		500V
C615	1-124-046-00	ELECT	10MF	20%	160V
C616	1-124-046-00	ELECT	10MF	20%	160V
C617	1-124-046-00	ELECT	10MF	20%	160V

<FILTER BLOCK>

CM301	1-464-720-11	FILTER BLOCK, COM (CFB-1)

<COMPOSITION CIRCUIT BLOCK>

CP008	1-233-147-11	COMPOSITION CIRCUIT BLOCK
CP009	1-233-145-11	COMPOSITION CIRCUIT BLOCK
CP102	1-233-117-11	COMPOSITION CIRCUIT BLOCK
CP103	1-236-137-11	NETWORK, RES, THICK FILM
CP104	1-233-147-11	COMPOSITION CIRCUIT BLOCK
CP107	1-233-146-11	COMPOSITION CIRCUIT BLOCK
CP108	1-233-118-11	COMPOSITION CIRCUIT BLOCK
CP109	1-233-117-11	COMPOSITION CIRCUIT BLOCK
CP112	1-236-077-11	NETWORK, RES, THICK FILM
CP301	1-236-078-11	NETWORK, RES, THICK FILM

<DIODE>

D101	8-719-110-78	DIODE RD33ES-B2
D112	8-719-911-19	DIODE 1SS119
D113	8-719-911-19	DIODE 1SS119
D114	8-719-911-19	DIODE 1SS119
D115	8-719-109-74	DIODE RD4.3ES-B1
D116	8-719-911-19	DIODE 1SS119
D117	8-719-109-89	DIODE RD5.6ES-B2
D118	8-719-911-19	DIODE 1SS119
D119	8-719-911-19	DIODE 1SS119
D120	8-719-911-19	DIODE 1SS119
D121	8-719-911-19	DIODE 1SS119
D122	8-719-911-19	DIODE 1SS119
D123	8-719-911-19	DIODE 1SS119
D125	8-719-911-19	DIODE 1SS119
D128	8-719-911-19	DIODE 1SS119
D350	8-719-911-19	DIODE 1SS119
D351	8-719-911-19	DIODE 1SS119
D505	8-719-911-19	DIODE 1SS119
D506	8-719-911-19	DIODE 1SS119
D508	8-719-200-02	DIODE 10E2
D509	8-719-911-19	DIODE 1SS119
D510	8-719-911-19	DIODE 1SS119
D511	8-719-971-20	DIODE ERC38-06
D512	8-719-945-80	DIODE ERC06-15S
D513	8-719-945-80	DIODE ERC06-15S
D514	8-719-900-26	DIODE ERD29-08J
D515	8-719-200-02	DIODE 10E2
D516	8-719-200-02	DIODE 10E2
D517	8-719-300-33	DIODE RU-3AM
D518	8-719-300-65	DIODE ES1F
D519	8-719-300-65	DIODE ES1F
D597	8-719-901-58	DIODE RGP15J
D598	1-806-549-41	DIODE ERB43-08

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D599	8-719-110-17	DIODE RD10ES-B2	
D601	⚠8-719-305-07	DIODE RBV-406H	
D602	8-719-200-02	DIODE 10E2	
D603	8-719-304-63	DIODE RM11C	
D604	8-719-304-63	DIODE RM11C	
D605	8-719-109-84	DIODE RD5.1ES-B1	
D606	8-719-200-02	DIODE 10E2	
		<FUSE>	
F601	⚠1-532-509-11	FUSE, GLASS TUBE 6.3A/125V	
	1-533-190-11	CLIP, FUSE; F601	
F602	⚠1-532-742-11	FUSE, GLASS TUBE 1.6A/125V	
	*1-533-189-11	HOLDER, FUSE; F602	
		<IC>	
IC101	8-759-605-39	IC M50439-519SP	
IC102	8-759-803-24	IC CXK1004L	
IC201	⚠8-749-900-15	IC SI-4102	
IC202	⚠8-749-900-15	IC SI-4102	
IC301	8-752-031-72	IC CXA1013AS	
IC303	8-759-982-37	IC RC78M93FD	
IC501	8-759-402-35	IC AN5521	
IC502	8-759-945-58	IC RC4558P	
IC601	⚠8-749-930-35	IC STR3035	
	4-369-267-01	SPACER, MICA; IC601	
MM201	8-741-156-80	IC SBX1568-51	
		<IF BLOCK>	
IF201	1-464-755-11	IF BLOCK (IFE-450)	
		<COIL>	
L101	1-410-482-31	INDUCTOR 100UH	
L103	1-410-482-31	INDUCTOR 100UH	
L105	1-408-404-00	INDUCTOR 3.9UH	
L106	1-408-404-00	INDUCTOR 3.9UH	
L107	1-410-482-31	INDUCTOR 100UH	
L108	1-408-411-00	INDUCTOR 15UH	
L109	1-408-411-00	INDUCTOR 15UH	
L203	1-408-408-00	INDUCTOR 8.2UH	
L301	1-408-411-00	INDUCTOR 15UH	
L501	1-408-226-00	INDUCTOR 82UH	
L502	1-408-938-00	INDUCTOR 22UH	
L504	1-459-313-00	COIL WITH CORE (HWC)	
L505	1-459-104-00	COIL, DUST CORE	
L506	1-407-365-00	COIL,CHOKE	
L507	1-408-349-00	COIL, CHOKE	
L508	1-408-239-00	INDUCTOR 4.7MMH	
L510	⚠1-459-224-13	HLC	
L511	1-459-075-00	COIL,DYNAMIC CONVERSION CHOKE	
L516	1-408-225-00	INDUCTOR 3.3UH	
L601	⚠1-408-225-21	INDUCTOR 3.3UH	
L602	⚠1-408-225-21	INDUCTOR 3.3UH	
L609	1-410-459-11	INDUCTOR 1.2UH	
		<NEON LAMP>	
NL501	1-519-108-99	LAMP, NEON	
		<MODULE>	
PM501	⚠1-235-963-11	PROTECTOR MODULE (PM-9)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<TRANSISTOR>	
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q106	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q108	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q109	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q110	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q112	8-729-378-92	TRANSISTOR 2SD789-4	
Q113	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q114	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q115	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q116	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q119	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q120	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q121	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q122	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q203	⚠8-729-378-83	TRANSISTOR 2SD788-4	
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q305	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q311	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q354	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q356	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q357	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q371	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q501	8-729-107-26	TRANSISTOR 2SD1585 K	
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q503	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q550	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q551	8-729-304-50	TRANSISTOR 2SD1941-06	
	*4-378-214-01	HOLDER, TR; Q551	
Q599	8-729-378-92	TRANSISTOR 2SD789-4	
Q601	8-729-255-12	TRANSISTOR 2SC2551	
		<RESISTOR>	
R001	1-249-421-11	CARBON 2.2K 5% 1/4W	
R002	1-249-414-11	CARBON 560 5% 1/4W	
R004	1-249-414-11	CARBON 560 5% 1/4W	
R005	1-249-414-11	CARBON 560 5% 1/4W	
R006	1-249-414-11	CARBON 560 5% 1/4W	
R007	1-249-414-11	CARBON 560 5% 1/4W	
R008	1-249-414-11	CARBON 560 5% 1/4W	
R009	1-249-414-11	CARBON 560 5% 1/4W	
R014	1-249-421-11	CARBON 2.2K 5% 1/4W	
R015	1-249-421-11	CARBON 2.2K 5% 1/4W	
R016	1-249-421-11	CARBON 2.2K 5% 1/4W	
R017	1-249-421-11	CARBON 2.2K 5% 1/4W	
R018	1-249-416-11	CARBON 820 5% 1/4W	
R019	1-249-429-11	CARBON 10K 5% 1/4W	
R020	1-249-429-11	CARBON 10K 5% 1/4W	
R021	1-249-434-11	CARBON 27K 5% 1/4W	
R022	1-249-414-11	CARBON 560 5% 1/4W	
R024	1-249-421-11	CARBON 2.2K 5% 1/4W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R025	1-249-421-11	CARBON	2.2K	5%	1/4W	
R026	1-249-421-11	CARBON	2.2K	5%	1/4W	
R027	1-249-421-11	CARBON	2.2K	5%	1/4W	
R028	1-249-423-11	CARBON	3.3K	5%	1/4W	
R029	1-249-414-11	CARBON	560	5%	1/4W	
R030	1-249-414-11	CARBON	560	5%	1/4W	
R032	1-249-414-11	CARBON	560	5%	1/4W	
R034	1-249-426-11	CARBON	5.6K	5%	1/4W	
R035	1-249-417-11	CARBON	1K	5%	1/4W	
R036	1-249-416-11	CARBON	820	5%	1/4W	
R037	1-249-416-11	CARBON	820	5%	1/4W	
R038	1-249-414-11	CARBON	560	5%	1/4W	
R040	1-249-431-11	CARBON	15K	5%	1/4W	
R044	1-249-414-11	CARBON	560	5%	1/4W	
R101	1-249-426-11	CARBON	5.6K	5%	1/4W	
R102	1-249-417-11	CARBON	1K	5%	1/4W	
R103	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R104	1-247-721-11	CARBON	4.7K	5%	1/4W	
R105	1-249-437-11	CARBON	47K	5%	1/4W	
R106	1-249-433-11	CARBON	22K	5%	1/4W	
R108	1-249-425-11	CARBON	4.7K	5%	1/4W	
R109	1-249-409-11	CARBON	220	5%	1/4W	
R113	1-249-417-11	CARBON	1K	5%	1/4W	
R115	1-249-421-11	CARBON	2.2K	5%	1/4W	
R116	1-249-421-11	CARBON	2.2K	5%	1/4W	
R117	1-249-421-11	CARBON	2.2K	5%	1/4W	
R118	1-249-433-11	CARBON	22K	5%	1/4W	
R119	1-247-713-11	CARBON	1K	5%	1/4W	
R120	1-249-437-11	CARBON	47K	5%	1/4W	
R121	1-249-434-11	CARBON	27K	5%	1/4W	
R124	1-249-417-11	CARBON	1K	5%	1/4W	
R125	1-249-417-11	CARBON	1K	5%	1/4W	
R126	1-249-429-11	CARBON	10K	5%	1/4W	
R128	1-249-429-11	CARBON	10K	5%	1/4W	
R131	1-249-412-11	CARBON	390	5%	1/4W	
R132	1-249-412-11	CARBON	390	5%	1/4W	
R133	1-249-429-11	CARBON	10K	5%	1/4W	
R134	1-247-708-11	CARBON	470	5%	1/4W	
R136	1-247-700-11	CARBON	100	5%	1/4W	
R137	1-249-441-11	CARBON	100K	5%	1/4W	
R139	1-249-417-11	CARBON	1K	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-417-11	CARBON	1K	5%	1/4W	
R142	1-249-429-11	CARBON	10K	5%	1/4W	
R143	1-249-429-11	CARBON	10K	5%	1/4W	
R145	1-249-414-11	CARBON	560	5%	1/4W	
R146	1-247-713-11	CARBON	1K	5%	1/4W	
R147	1-249-416-11	CARBON	820	5%	1/4W	
R148	1-249-432-11	CARBON	18K	5%	1/4W	
R149	1-249-423-11	CARBON	3.3K	5%	1/4W	
R150	1-249-437-11	CARBON	47K	5%	1/4W	
R151	1-249-429-11	CARBON	10K	5%	1/4W	
R152	1-249-433-11	CARBON	22K	5%	1/4W	
R153	1-249-427-11	CARBON	6.8K	5%	1/4W	
R154	1-247-889-00	CARBON	270K	5%	1/4W	
R155	1-249-439-11	CARBON	68K	5%	1/4W	
R156	1-249-424-11	CARBON	3.9K	5%	1/4W	
R157	1-249-409-11	CARBON	220	5%	1/4W	
R158	1-247-889-00	CARBON	270K	5%	1/4W	
R159	1-249-409-11	CARBON	220	5%	1/4W	
R160	1-249-439-11	CARBON	68K	5%	1/4W	
R161	1-249-424-11	CARBON	3.9K	5%	1/4W	
R162	1-249-433-11	CARBON	22K	5%	1/4W	
R163	1-249-433-11	CARBON	22K	5%	1/4W	
R164	1-249-433-11	CARBON	22K	5%	1/4W	
R165	1-249-433-11	CARBON	22K	5%	1/4W	
R166	1-249-429-11	CARBON	10K	5%	1/4W	
R167	1-247-903-00	CARBON	1M	5%	1/4W	
R170	1-249-415-11	CARBON	680	5%	1/4W	
R171	1-249-423-11	CARBON	3.3K	5%	1/4W	
R172	1-249-434-11	CARBON	27K	5%	1/4W	
R174	1-247-889-00	CARBON	270K	5%	1/4W	
R175	1-249-441-11	CARBON	100K	5%	1/4W	
R176	1-249-441-11	CARBON	100K	5%	1/4W	
R180	1-249-426-11	CARBON	5.6K	5%	1/4W	
R181	1-249-416-11	CARBON	820	5%	1/4W	
R182	1-249-415-11	CARBON	680	5%	1/4W	
R185	1-247-725-11	CARBON	10K	5%	1/4W	
R202	1-247-700-11	CARBON	100	5%	1/4W	
R204	1-249-435-11	CARBON	33K	5%	1/4W	
R207	1-249-435-11	CARBON	33K	5%	1/4W	
R208	1-249-425-11	CARBON	4.7K	5%	1/4W	
R209	1-249-417-11	CARBON	1K	5%	1/4W	
R210	1-247-700-11	CARBON	100	5%	1/4W	
R212	1-249-419-11	CARBON	1.5K	5%	1/4W	
R213	1-249-411-11	CARBON	330	5%	1/4W	
R214	1-249-411-11	CARBON	330	5%	1/4W	
R217	1-247-713-11	CARBON	1K	5%	1/4W	
R221	1-249-414-11	CARBON	560	5%	1/4W	
R229	1-249-411-11	CARBON	330	5%	1/4W	
R230	1-249-411-11	CARBON	330	5%	1/4W	
R231	1-247-700-11	CARBON	100	5%	1/4W	
R232	1-247-706-11	CARBON	330	5%	1/4W	
R233	1-249-411-11	CARBON	330	5%	1/4W	
R234	1-249-411-11	CARBON	330	5%	1/4W	
R240	1-249-425-11	CARBON	4.7K	5%	1/4W	
R241	1-249-441-11	CARBON	100K	5%	1/4W	
R250	1-249-411-11	CARBON	330	5%	1/4W	F
R251	⚠ 1-249-401-91	CARBON	47	5%	1/4W	F
R252	1-249-430-11	CARBON	12K	5%	1/4W	
R253	1-249-434-11	CARBON	27K	5%	1/4W	
R254	1-249-403-11	CARBON	68	5%	1/4W	
R290	1-249-410-11	CARBON	270	5%	1/4W	F
R291	1-249-430-11	CARBON	12K	5%	1/4W	
R292	⚠ 1-249-401-91	CARBON	47	5%	1/4W	F
R293	1-249-434-11	CARBON	27K	5%	1/4W	
R301	1-215-472-00	METAL	130K	1%	1/6W	
R302	1-249-437-11	CARBON	47K	5%	1/4W	
R304	1-247-889-00	CARBON	270K	5%	1/4W	
R305	1-249-440-11	CARBON	82K	5%	1/4W	
R306	1-249-437-11	CARBON	47K	5%	1/4W	
R307	1-249-429-11	CARBON	10K	5%	1/4W	
R308	1-249-411-11	CARBON	330	5%	1/4W	
R309	1-249-411-11	CARBON	330	5%	1/4W	
R310	1-249-411-11	CARBON	330	5%	1/4W	
R315	1-249-417-11	CARBON	1K	5%	1/4W	
R316	1-247-706-11	CARBON	330	5%	1/4W	
R318	1-249-417-11	CARBON	1K	5%	1/4W	
R319	1-249-417-11	CARBON	1K	5%	1/4W	
R320	1-249-417-11	CARBON	1K	5%	1/4W	
R323	1-249-427-11	CARBON	6.8K	5%	1/4W	
R325	1-249-435-11	CARBON	33K	5%	1/4W	
R328	1-249-414-11	CARBON	560	5%	1/4W	
R329	1-249-441-11	CARBON	100K	5%	1/4W	
R330	1-249-426-11	CARBON	5.6K	5%	1/4W	
R333	1-249-429-11	CARBON	10K	5%	1/4W	
R334	1-249-413-11	CARBON	470	5%	1/4W	

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- The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- ✱ : Selected to yield optimum performance.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R335	1-247-721-11	CARBON	4.7K	5%	1/4W	
R340	1-249-427-11	CARBON	6.8K	5%	1/4W	
R341	1-247-717-11	CARBON	2.2K	5%	1/4W	
R342	1-247-717-11	CARBON	2.2K	5%	1/4W	
R344	1-215-894-11	METAL OXIDE	2.2K	5%	2W	F
R348	1-247-717-11	CARBON	2.2K	5%	1/4W	
R349	1-249-417-11	CARBON	1K	5%	1/4W	
R350	1-249-437-11	CARBON	47K	5%	1/4W	
R351	1-247-903-00	CARBON	1M	5%	1/4W	
R352	1-247-901-11	CARBON	820K	5%	1/4W	
R353	1-249-429-11	CARBON	10K	5%	1/4W	
R361	1-249-429-11	CARBON	10K	5%	1/4W	
R362	1-216-470-00	METAL OXIDE	18	5%	3W	F
R364	1-249-437-11	CARBON	47K	5%	1/4W	
R366	1-247-713-11	CARBON	1K	5%	1/4W	
R368	1-249-417-11	CARBON	1K	5%	1/4W	
R369	1-249-417-11	CARBON	1K	5%	1/4W	
R371	1-249-429-11	CARBON	10K	5%	1/4W	
R375	1-249-434-11	CARBON	27K	5%	1/4W	
R378	1-215-894-11	METAL OXIDE	2.2K	5%	2W	F
R379	1-215-894-11	METAL OXIDE	2.2K	5%	2W	F
R380	1-249-419-11	CARBON	1.5K	5%	1/4W	F
⋈R381 ⚠		METAL			1/6W	
R382	1-202-830-00	SOLID	10K	10%	1/2W	
R385	1-249-436-11	CARBON	39K	5%	1/4W	
R386	1-249-439-11	CARBON	68K	5%	1/4W	
R387	1-249-462-11	CARBON	22K	5%	1/4W	
R389	1-249-414-11	CARBON	560	5%	1/4W	
R390	1-247-721-11	CARBON	4.7K	5%	1/4W	
R391	1-249-441-11	CARBON	100K	5%	1/4W	
R392	1-249-429-11	CARBON	10K	5%	1/4W	
R501	1-216-458-11	METAL OXIDE	1.8K	5%	2W	F
R502	1-216-458-11	METAL OXIDE	1.8K	5%	2W	F
R503	1-249-405-11	CARBON	100	5%	1/4W	
R504	1-249-414-11	CARBON	560	5%	1/4W	
R505	1-215-472-00	METAL	130K	1%	1/6W	
R506	1-247-702-11	CARBON	150	5%	1/4W	
R507	1-249-426-11	CARBON	5.6K	5%	1/4W	
R508	1-249-437-11	CARBON	47K	5%	1/4W	
R509	1-249-434-11	CARBON	27K	5%	1/4W	
R510	1-249-422-11	CARBON	2.7K	5%	1/4W	
R512	1-249-411-11	CARBON	330	5%	1/4W	
R513	1-215-472-00	METAL	130K	1%	1/6W	
R514	1-215-459-00	METAL	39K	1%	1/6W	
R515	1-215-441-00	METAL	6.8K	1%	1/6W	
R516	1-249-428-11	CARBON	8.2K	5%	1/4W	
R517	1-247-713-11	CARBON	1K	5%	1/4W	
R519	1-249-424-11	CARBON	3.9K	5%	1/4W	
R521	1-247-887-00	CARBON	220K	5%	1/4W	
R522	1-249-421-11	CARBON	2.2K	5%	1/4W	
R523	1-249-417-11	CARBON	1K	5%	1/4W	
R524	1-247-713-11	CARBON	1K	5%	1/4W	
R525	1-249-419-11	CARBON	1.5K	5%	1/4W	
R526	1-249-431-11	CARBON	15K	5%	1/4W	
R527	1-249-417-11	CARBON	1K	5%	1/4W	
R528	1-249-429-11	CARBON	10K	5%	1/4W	
R529	1-249-423-11	CARBON	3.3K	5%	1/4W	
R530	1-249-433-11	CARBON	22K	5%	1/4W	
R531	1-246-535-00	CARBON	390K	5%	1/4W	
R532	1-249-438-11	CARBON	56K	5%	1/4W	
R533	1-249-417-11	CARBON	1K	5%	1/4W	
R534	1-249-410-11	CARBON	270	5%	1/4W	
R535	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R536	1-247-722-11	CARBON	5.6K	5%	1/4W	
R537	1-247-726-11	CARBON	33K	5%	1/4W	
R539	1-215-373-31	METAL	10	1%	1/6W	
R540	1-249-405-11	CARBON	100	5%	1/4W	
R541	1-249-429-11	CARBON	10K	5%	1/4W	
R542	1-249-426-11	CARBON	5.6K	5%	1/4W	
R543	1-249-434-11	CARBON	27K	5%	1/4W	
R544	1-249-429-11	CARBON	10K	5%	1/4W	
R545	1-247-754-11	CARBON	1.5K	5%	1/2W	
R546	1-249-415-11	CARBON	680	5%	1/4W	F
R547	1-249-429-11	CARBON	10K	5%	1/4W	
R548	1-249-437-11	CARBON	47K	5%	1/4W	
R549 ⚠	1-249-415-91	CARBON	680	5%	1/4W	F
R550	1-249-440-11	CARBON	82K	5%	1/4W	
✱R551	1-249-437-11	CARBON	47K	5%	1/4W	
R552	1-247-713-11	CARBON	1K	5%	1/4W	F
R553	1-249-413-11	CARBON	470	5%	1/4W	
R554	1-249-429-11	CARBON	10K	5%	1/4W	
✱R555	1-249-413-11	CARBON	470	5%	1/4W	
R556	1-216-371-00	METAL OXIDE	1.5	5%	2W	F
R557	1-259-871-15	CARBON	6.8M	5%	1/4W	
R558	1-249-407-11	CARBON	150	5%	1/4W	
R559	1-249-417-11	CARBON	1K	5%	1/4W	
R560	1-247-719-11	CARBON	3.3K	5%	1/4W	
R561	1-247-717-11	CARBON	2.2K	5%	1/4W	
R562	1-215-880-00	METAL OXIDE	10	5%	2W	F
R563	1-249-436-11	CARBON	39K	5%	1/4W	
R564	1-249-433-11	CARBON	22K	5%	1/4W	
R565	1-249-441-11	CARBON	100K	5%	1/4W	
R566	1-247-895-00	CARBON	470K	5%	1/4W	
R567 ⚠	1-216-373-51	METAL OXIDE	2.2	5%	2W	F
R568 ⚠	1-249-448-51	CARBON	1.2	5%	1/4W	F
R569	1-249-423-11	CARBON	3.3K	5%	1/4W	
R570 ⚠	1-215-918-51	METAL OXIDE	1.5K	5%	3W	F
R571	1-247-700-11	CARBON	100	5%	1/4W	
R572	1-249-423-11	CARBON	3.3K	5%	1/4W	
R573	1-247-722-11	CARBON	5.6K	5%	1/4W	F
R574	1-216-345-11	METAL OXIDE	0.47	5%	1W	F
R575	1-249-434-11	CARBON	27K	5%	1/4W	
R576	1-249-389-11	CARBON	4.7	5%	1/4W	F
R577	1-215-860-11	METAL OXIDE	33	5%	1W	F
R578 ⚠	1-215-880-91	METAL OXIDE	10	5%	2W	F
R579 ⚠	1-249-415-91	CARBON	680	5%	1/4W	F
R580 ⚠	1-215-861-91	METAL OXIDE	47	5%	1W	F
R581	1-247-708-11	CARBON	470	5%	1/4W	F
R582	1-216-450-00	METAL OXIDE	82	5%	2W	F
R583	1-216-450-00	METAL OXIDE	82	5%	2W	F
R584	1-216-458-11	METAL OXIDE	1.8K	5%	2W	F
R585	1-216-458-11	METAL OXIDE	1.8K	5%	2W	F
R586	1-216-429-00	METAL OXIDE	270	5%	1W	F
R587 ⚠	1-216-434-91	METAL OXIDE	1.8K	5%	1W	F
R588	1-247-696-11	CARBON	47	5%	1/4W	
R589	1-249-441-11	CARBON	100K	5%	1/4W	
R591 ⚠	1-216-345-91	METAL OXIDE	0.47	5%	1W	F
R592 ⚠	1-249-448-51	CARBON	1.2	5%	1/4W	F
R593	1-216-374-00	METAL OXIDE	2.7	5%	2W	F
R598 ⚠	1-249-389-91	CARBON	4.7	5%	1/4W	F
R599	1-249-419-11	CARBON	1.5K	5%	1/4W	
R601	1-202-726-00	SOLID	3.9M	10%	1/2W	
R602 ⚠	1-205-741-11	WIREWOUND	1.8	5%	10W	F
R605 ⚠	1-205-702-11	WIREWOUND	220	5%	20W	F
R606	1-247-889-00	CARBON	270K	5%	1/4W	
R610 ⚠	1-217-224-11	WIREWOUND	100	10%	2W	F

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R611	1-215-872-11	METAL OXIDE	3.3K	5%	1W	F
R613	1-249-437-11	CARBON	47K	5%	1/4W	
R614	1-249-425-11	CARBON	4.7K	5%	1/4W	
R615	⚠1-216-463-91	METAL OXIDE	12K	5%	2W	F
R616	⚠1-247-719-51	CARBON	3.3K	5%	1/4W	F
R617	⚠1-249-401-91	CARBON	47	5%	1/4W	F
R618	1-247-895-00	CARBON	470K	5%	1/4W	
R619	1-216-482-11	METAL OXIDE	1.8K	5%	3W	F
R620	1-216-482-11	METAL OXIDE	1.8K	5%	3W	F
R621	1-216-482-11	METAL OXIDE	1.8K	5%	3W	F
R650	⚠1-205-702-11	WIREWOUND	220	5%	20W	F

<VARIABLE RESISTOR>

RV201	1-238-015-11	RES, ADJ, CARBON 4.7K
RV291	1-238-010-11	RES, ADJ, CARBON 330
RV307	1-238-011-11	RES, ADJ, CARBON 470
RV501	1-228-728-00	RES, ADJ, CERAMIC CARBON 100K
RV502	1-238-020-11	RES, ADJ, CARBON 100K
RV504	1-238-017-11	RES, ADJ, CARBON 22K
RV505	1-238-017-11	RES, ADJ, CARBON 22K
RV506	1-238-019-11	RES, ADJ, CARBON 47K
RV507	1-238-010-11	RES, ADJ, CARBON 330
RV508	1-238-012-11	RES, ADJ, CARBON 1K

<RELAY>

RY601	⚠1-515-573-12	RELAY, POWER

<SWITCH>

S501	1-554-186-00	SWITCH, LEVER

<SPARK GAP>

SG501	1-519-422-11	GAP, SPARK

<TRANSFORMER>

T101	1-404-538-11	COIL
T201	⚠1-427-462-11	TRANSFORMER, SOUND OUTPUT
T299	⚠1-427-462-11	TRANSFORMER, SOUND OUTPUT
T501	1-437-079-00	TRANSFORMER, HORIZONTAL DRIVE
T502	⚠1-421-794-11	TRANSFORMER, FERRITE (PMT)
T599	1-421-857-11	TRANSFORMER, FERRITE
T601	⚠1-421-357-31	TRANSFORMER, LINE FILTER

<THERMISTOR>

THP601	⚠1-808-081-13	THERMISTOR, POSITIVE

<CRYSTAL>

X101	1-567-192-11	OSCILLATOR, CERAMIC
X301	1-567-505-11	OSCILLATOR, CRYSTAL

****

	*1-624-988-11	M1 BOARD
		********
	*1-566-049-11	PIN, CONNECTOR 10P
	*1-566-057-11	PIN, CONNECTOR 5P
	*4-374-987-01	GUIDE, LIGHT
	*4-388-955-01	BRACKET (B), LIGHT GUIDE

REF.NO.	PART NO.	DESCRIPTION	REMARK

<DIODE>

D801	8-719-311-89	DIODE SEL1222R-C
	*4-368-519-00	HOLDER (3 GANG), LED; D801
D802	8-719-311-89	DIODE SEL1222R-C
	*4-368-519-00	HOLDER (3 GANG), LED; D802
D803	8-719-311-89	DIODE SEL1222R-C
	*4-368-519-00	HOLDER (3 GANG), LED; D803
D804	8-719-311-89	DIODE SEL1222R-C

<IC>

IC801	8-741-148-33	IC SBX1483-59

<SWITCH>

S801	1-554-937-11	SWITCH, KEY BOARD
S802	1-554-937-11	SWITCH, KEY BOARD
S803	1-554-937-11	SWITCH, KEY BOARD
S804	1-554-937-11	SWITCH, KEY BOARD
S805	1-554-937-11	SWITCH, KEY BOARD
S806	1-554-937-11	SWITCH, KEY BOARD
S808	⚠1-554-937-11	SWITCH, KEY BOARD (POWER)

****

	*1-624-989-11	M2 BOARD
		********
	*1-566-058-11	PIN, CONNECTOR 6P
	*1-566-061-11	PIN, CONNECTOR 9P

<DIODE>

D804	8-719-911-19	DIODE 1SS119

<RESISTOR>

R801	1-249-429-11	CARBON	10K	5%	1/4W
R802	1-249-430-11	CARBON	12K	5%	1/4W
R803	1-249-428-11	CARBON	8.2K	5%	1/4W

<VARIABLE RESISTOR>

RV801	1-237-999-11	RES, VAR, CARBON 20KX4
RV802	1-237-999-11	RES, VAR, CARBON 20KX4
RV803	1-237-999-11	RES, VAR, CARBON 20KX4
RV804	1-237-999-11	RES, VAR, CARBON 20KX4

<SWITCH>

S809	1-554-303-21	SWITCH, KEY BOARD
S810	1-554-303-21	SWITCH, KEY BOARD
S811	1-554-303-21	SWITCH, KEY BOARD
S812	1-571-399-11	SWITCH, ROTARY
S813	1-571-399-11	SWITCH, ROTARY
S814	1-571-399-11	SWITCH, ROTARY

****

	*A-1330-838-A	C BOARD, COMPLETE
		**********
	1-526-798-51	SOCKET, PICTURE TUBE
	*4-379-160-01	COVER (REAR LID), CV

C K

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REF.NO.	PART NO.	DESCRIPTION				REMARK
	*4-379-167-01	COVER (MAIN), CV				
		<CONNECTOR>				
C1	*1-506-371-00	PIN, CONNECTOR 2P				
C2	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P				
C3	*1-566-058-11	PIN, CONNECTOR 6P				
		<CAPACITOR>				
C701	1-136-601-11	FILM	0.01MF	10%	630V	
C702	1-162-115-00	CERAMIC	330PF	10%	2KV	
C704	1-124-915-11	ELECT	10MF	20%	63V	
C705	1-102-116-00	CERAMIC	680PF	10%	50V	
C706	1-102-116-00	CERAMIC	680PF	10%	50V	
C707	1-102-116-00	CERAMIC	680PF	10%	50V	
C708	1-102-110-00	CERAMIC	220PF	10%	50V	
C709	1-102-110-00	CERAMIC	220PF	10%	50V	
C710	1-102-110-00	CERAMIC	220PF	10%	50V	
C711	1-101-004-00	CERAMIC	0.01MF		50V	
C722	1-162-622-11	CERAMIC	330PF	10%	6.3KV	
		<DIODE>				
D701	8-719-911-19	DIODE 1SS119				
D702	8-719-911-19	DIODE 1SS119				
D703	8-719-911-19	DIODE 1SS119				
		<COIL>				
L701	1-408-417-00	INDUCTOR	47UH			
		<TRANSISTOR>				
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q702	8-729-326-11	TRANSISTOR 2SC2611				
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q704	8-729-326-11	TRANSISTOR 2SC2611				
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q706	8-729-326-11	TRANSISTOR 2SC2611				
		<RESISTOR>				
R701	1-202-838-00	SOLID	100K	10%	1/2W	
R702	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R703	1-202-842-11	SOLID	220K	10%	1/2W	
R704	1-202-846-00	SOLID	470K	10%	1/2W	
R705	1-202-837-00	SOLID	82K	10%	1/2W	
R706	1-202-549-00	SOLID	100	10%	1/2W	
R707	1-202-842-11	SOLID	220K	10%	1/2W	
R708	1-202-824-00	SOLID	3.3K	10%	1/2W	
R709	1-202-824-00	SOLID	3.3K	10%	1/2W	
R710	1-247-700-11	SOLID	100	5%	1/4W	
R711	1-249-409-11	CARBON	220	5%	1/4W	
R712	1-249-409-11	CARBON	220	5%	1/4W	
R713	1-202-824-00	SOLID	3.3K	10%	1/2W	
R714	1-249-421-11	CARBON	2.2K	5%	1/4W	
R715	1-249-422-11	CARBON	2.7K	5%	1/4W	
R716	1-249-414-11	CARBON	560	5%	1/4W	
R718	1-249-405-11	CARBON	100	5%	1/4W	
R719	1-249-418-11	CARBON	1.2K	5%	1/4W	
R720	1-249-413-11	CARBON	470	5%	1/4W	
R722	⚠ 1-206-692-61	METAL OXIDE	15K	5%	2W	F
R723	1-249-414-11	CARBON	560	5%	1/4W	
R725	1-249-422-11	CARBON	2.7K	5%	1/4W	
R726	1-249-405-11	CARBON	100	5%	1/4W	
R727	1-249-418-11	CARBON	1.2K	5%	1/4W	
R728	1-249-413-11	CARBON	470	5%	1/4W	
R729	1-249-409-11	CARBON	220	5%	1/4W	
R730	⚠ 1-206-692-61	METAL OXIDE	15K	5%	2W	F
R732	1-249-411-11	CARBON	330	5%	1/4W	
R733	1-249-422-11	CARBON	2.7K	5%	1/4W	
R734	1-249-425-11	CARBON	4.7K	5%	1/4W	
R735	1-249-405-11	CARBON	100	5%	1/4W	
R737	⚠ 1-206-692-61	METAL OXIDE	15K	5%	2W	F
R738	1-202-848-00	SOLID	680K	10%	1/2W	
R739	1-202-838-00	SOLID	100K	10%	1/2W	
R740	1-202-842-11	SOLID	220K	10%	1/2W	
		<VARIABLE RESISTOR>				
RV701	⚠ 1-230-619-11	RES, ADJ, METAL GLAZE 110M				
RV702	1-228-992-11	RES, ADJ, CARBON 3.3K				
RV703	1-228-993-00	RES, ADJ, CARBON 4.7K				
RV704	1-228-992-11	RES, ADJ, CARBON 3.3K				
RV705	1-228-993-00	RES, ADJ, CARBON 4.7K				
RV706	1-228-993-00	RES, ADJ, CARBON 4.7K				
RV707	1-228-995-00	RES, ADJ, CARBON 22K				
RV708	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				

****

*1-630-208-11 K BOARD
****

<CAPACITOR>

C1201	1-101-004-00	CERAMIC	0.01MF		50V
C1202	1-101-001-00	CERAMIC	0.001MF		50V
C1203	1-101-004-00	CERAMIC	0.01MF		50V
C1204	1-126-320-11	ELECT	10MF	20%	16V
C1205	1-126-320-11	ELECT	10MF	20%	16V
C1206	1-126-320-11	ELECT	10MF	20%	16V
C1207	1-126-320-11	ELECT	10MF	20%	16V
C1208	1-101-004-00	CERAMIC	0.01MF		50V
C1209	1-123-356-00	ELECT	10MF	20%	16V

<DIODE>

D1205	8-719-911-19	DIODE 1SS119
D1206	8-719-911-19	DIODE 1SS119

<IC>

IC1201	8-759-040-53	IC MC14053BCP

<CONNECTOR>

K1	*1-566-058-11	PIN, CONNECTOR 6P
K2	*1-566-059-11	PIN, CONNECTOR 7P
K3	*1-566-060-11	PIN, CONNECTOR 8P

<TRANSISTOR>

Q1201	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1202	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1203	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1204	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1205	8-729-900-89	TRANSISTOR DTC144ES

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REF.NO.	PART NO.	DESCRIPTION				REMARK
Q1206	8-729-900-89	TRANSISTOR DTC144ES				
Q1207	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1208	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1209	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1210	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1211	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R1201	1-249-441-11	CARBON	100K	5%	1/4W	
R1202	1-249-405-11	CARBON	100	5%	1/4W	
R1203	1-249-441-11	CARBON	100K	5%	1/4W	
R1204	1-249-405-11	CARBON	100	5%	1/4W	
R1205	1-249-441-11	CARBON	100K	5%	1/4W	
R1206	1-249-405-11	CARBON	100	5%	1/4W	
R1207	1-249-441-11	CARBON	100K	5%	1/4W	
R1208	1-249-405-11	CARBON	100	5%	1/4W	
R1209	1-249-429-11	CARBON	10K	5%	1/4W	
R1210	1-249-429-11	CARBON	10K	5%	1/4W	
R1211	1-249-441-11	CARBON	100K	5%	1/4W	
R1212	1-249-405-11	CARBON	100	5%	1/4W	
R1213	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1215	1-249-417-11	CARBON	1K	5%	1/4W	
R1216	1-249-429-11	CARBON	10K	5%	1/4W	
R1218	1-249-417-11	CARBON	1K	5%	1/4W	
R1219	1-249-429-11	CARBON	10K	5%	1/4W	
R1221	1-249-417-11	CARBON	1K	5%	1/4W	
R1222	1-249-441-11	CARBON	100K	5%	1/4W	
R1223	1-249-405-11	CARBON	100	5%	1/4W	
R1224	1-249-441-11	CARBON	100K	5%	1/4W	
R1225	1-249-431-11	CARBON	15K	5%	1/4W	
R1226	1-249-431-11	CARBON	15K	5%	1/4W	
R1227	1-249-431-11	CARBON	15K	5%	1/4W	
R1228	1-249-431-11	CARBON	15K	5%	1/4W	
R1229	1-249-431-11	CARBON	15K	5%	1/4W	
R1230	1-249-431-11	CARBON	15K	5%	1/4W	
R1231	1-249-431-11	CARBON	15K	5%	1/4W	
R1232	1-249-431-11	CARBON	15K	5%	1/4W	
R1233	1-249-431-11	CARBON	15K	5%	1/4W	
R1234	1-249-431-11	CARBON	15K	5%	1/4W	
R1235	1-249-431-11	CARBON	15K	5%	1/4W	
R1236	1-249-431-11	CARBON	15K	5%	1/4W	

****

*A-1394-180-A U BOARD, COMPLETE
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		<CAPACITOR>				
C1402	1-124-604-00	ELECT	330MF	20%	10V	
C1405	1-124-119-00	ELECT	330MF	20%	16V	
C1406	1-101-004-00	CERAMIC	0.01MF		50V	
C1407	1-126-101-11	ELECT	100MF	20%	16V	
C1408	1-101-004-00	CERAMIC	0.01MF		50V	
C1409	1-126-101-11	ELECT	100MF	20%	16V	
C1412	1-101-004-00	CERAMIC	0.01MF		50V	
C1423	1-106-375-12	MYLAR	0.022MF	10%	100V	
C1424	1-106-363-00	MYLAR	0.0068MF	10%	100V	
C1425	1-126-101-11	ELECT	100MF	20%	16V	
C1426	1-106-375-12	MYLAR	0.022MF	10%	100V	
C1427	1-106-363-00	MYLAR	0.0068MF	10%	100V	
C1428	1-124-499-11	ELECT	1MF	20%	50V	
C1430⚠	1-161-742-51	CERAMIC	0.0022MF	20%	400V	
C1431	1-126-233-11	ELECT	22MF	20%	50V	
C1432	1-126-233-11	ELECT	22MF	20%	50V	
C1436	1-123-875-11	ELECT	10MF	20%	50V	
C1437	1-123-875-11	ELECT	10MF	20%	50V	
C1438	1-123-875-11	ELECT	10MF	20%	50V	
C1439	1-123-875-11	ELECT	10MF	20%	50V	
C1442	1-126-233-11	ELECT	22MF	20%	50V	
C1443	1-101-004-00	CERAMIC	0.01MF		50V	
C1444	1-126-101-11	ELECT	100MF	20%	16V	
C1445	1-124-119-00	ELECT	330MF	20%	16V	
C1446	1-123-875-11	ELECT	10MF	20%	50V	
C1447	1-123-875-11	ELECT	10MF	20%	50V	
C1448	1-101-004-00	CERAMIC	0.01MF		50V	
C1449	1-126-101-11	ELECT	100MF	20%	16V	
C1450	1-124-499-11	ELECT	1MF	20%	50V	
C1451	1-124-499-11	ELECT	1MF	20%	50V	
C1452	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C1453	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C1454	1-126-103-11	ELECT	470MF	20%	16V	
C1467	1-124-768-11	ELECT	4.7MF	20%	50V	
C1468	1-124-768-11	ELECT	4.7MF	20%	50V	
C1469	1-123-875-11	ELECT	10MF	20%	50V	
C1470	1-124-499-11	ELECT	1MF	20%	50V	
C1471	1-124-499-11	ELECT	1MF	20%	50V	
C1472	1-123-875-11	ELECT	10MF	20%	50V	
C1473	1-123-875-11	ELECT	10MF	20%	50V	
C1474	1-123-875-11	ELECT	10MF	20%	50V	
C1475	1-123-875-11	ELECT	10MF	20%	50V	
C1476	1-124-499-11	ELECT	1MF	20%	50V	
C1477	1-124-499-11	ELECT	1MF	20%	50V	
C1480	1-123-875-11	ELECT	10MF	20%	50V	
C1481	1-123-875-11	ELECT	10MF	20%	50V	
		<DIODE>				
D1401	8-719-109-92	DIODE RD6.2ES-B1				
D1402	8-719-109-92	DIODE RD6.2ES-B1				
D1430	8-719-911-19	DIODE 1SS119				
		<IC>				
IC1401	1-235-783-21	INSULATED MODULE, VIDEO(IVM-1)				
IC1402	1-235-784-12	INSULATED MODULE, AUDIO(IAM-1)				
IC1403	1-235-784-12	INSULATED MODULE, AUDIO(IAM-1)				
IC1404	1-235-784-12	INSULATED MODULE, AUDIO(IAM-1)				
IC1405	1-235-784-12	INSULATED MODULE, AUDIO(IAM-1)				
IC1406	1-235-783-21	INSULATED MODULE, VIDEO(IVM-1)				
IC1407	8-759-000-49	IC MC14066BCP				
IC1409	8-719-927-74	DIODE PC817-C				
IC1410	8-759-983-38	IC MB3110APS-G-SNY				
		<JACK>				
J1401	1-565-931-11	TERMINAL BLOCK, S 3P				
J1403	1-565-838-11	PIN JACK BLOCK 2P				
		<TRANSISTOR>				
Q1439	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1440	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1441	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1442	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1443	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1444	8-729-900-89	TRANSISTOR DTC144ES				

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Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q1445	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R1403	1-247-699-11	CARBON	82	5%	1/4W	
R1409	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1411	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1419	1-247-700-11	CARBON	100	5%	1/4W	
R1430	⚠1-202-726-91	SOLID	3.9M	10%	1/2W	
R1436	1-249-466-11	CARBON	56K	5%	1/4W	
R1438	1-249-466-11	CARBON	56K	5%	1/4W	
R1447	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1448	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1449	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1450	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1453	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1454	1-247-699-11	CARBON	82	5%	1/4W	
R1455	1-249-405-11	CARBON	100	5%	1/4W	
R1456	1-247-700-11	CARBON	100	5%	1/4W	
R1457	1-247-700-11	CARBON	100	5%	1/4W	
R1458	1-249-405-11	CARBON	100	5%	1/4W	
R1459	1-249-466-11	CARBON	56K	5%	1/4W	
R1460	1-249-466-11	CARBON	56K	5%	1/4W	
R1461	1-249-466-11	CARBON	56K	5%	1/4W	
R1462	1-249-438-11	CARBON	56K	5%	1/4W	
R1463	1-249-431-11	CARBON	15K	5%	1/4W	
R1464	1-249-431-11	CARBON	15K	5%	1/4W	
R1471	1-247-881-00	CARBON	120K	5%	1/4W	
R1472	1-247-881-00	CARBON	120K	5%	1/4W	
R1473	1-249-441-11	CARBON	100K	5%	1/4W	
R1474	1-249-441-11	CARBON	100K	5%	1/4W	
R1475	1-249-417-11	CARBON	1K	5%	1/4W	
R1477	1-249-405-11	CARBON	100	5%	1/4W	F
R1479	1-249-434-11	CARBON	27K	5%	1/4W	
R1480	1-249-463-11	CARBON	27K	5%	1/4W	
R1486	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1487	1-249-433-11	CARBON	22K	5%	1/4W	
R1489	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1490	1-249-433-11	CARBON	22K	5%	1/4W	
R1496	1-247-700-11	CARBON	100	5%	1/4W	
R1497	1-249-441-11	CARBON	100K	5%	1/4W	
R1500	1-249-417-11	CARBON	1K	5%	1/4W	
R1501	1-249-417-11	CARBON	1K	5%	1/4W	
R1503	1-249-463-11	CARBON	27K	5%	1/4W	
R1504	1-249-463-11	CARBON	27K	5%	1/4W	
R1505	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1506	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1507	1-247-885-00	CARBON	180K	5%	1/4W	
R1508	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1509	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1510	1-247-713-11	CARBON	1K	5%	1/4W	
R1511	1-249-469-11	CARBON	100K	5%	1/4W	
R1512	1-247-713-11	CARBON	1K	5%	1/4W	
R1513	1-249-469-11	CARBON	100K	5%	1/4W	
R1514	1-249-435-11	CARBON	33K	5%	1/4W	
R1515	1-249-435-11	CARBON	33K	5%	1/4W	
R1516	1-249-405-11	CARBON	100	5%	1/4W	
R1517	1-249-405-11	CARBON	100	5%	1/4W	
R1518	1-249-434-11	CARBON	27K	5%	1/4W	
R1519	1-249-469-11	CARBON	100K	5%	1/4W	
R1520	1-249-469-11	CARBON	100K	5%	1/4W	
R1521	1-249-441-11	CARBON	100K	5%	1/4W	
R1522	1-249-441-11	CARBON	100K	5%	1/4W	
R1524	1-247-700-11	CARBON	100	5%	1/4W	
R1525	⚠1-249-391-91	CARBON	6.8	5%	1/4W	F
R1526	1-247-725-11	CARBON	10K	5%	1/4W	
R1527	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1528	1-249-441-11	CARBON	100K	5%	1/4W	
R1529	1-247-715-11	CARBON	1.5K	5%	1/4W	
R1530	1-249-441-11	CARBON	100K	5%	1/4W	
R1531	1-249-465-11	CARBON	47K	5%	1/4W	
R1532	1-249-437-11	CARBON	47K	5%	1/4W	
R1534	1-249-428-11	CARBON	8.2K	5%	1/4W	
R1535	1-249-417-11	CARBON	1K	5%	1/4W	
R1536	1-249-405-11	CARBON	100	5%	1/4W	
R1546	1-249-405-11	CARBON	100	5%	1/4W	
R1547	1-249-405-11	CARBON	100	5%	1/4W	
		<CONNECTOR>				
U2	*1-566-058-11	PIN, CONNECTOR 6P				
U3	*1-566-057-11	PIN, CONNECTOR 5P				
U4	*1-566-060-11	PIN, CONNECTOR 8P				
U5	*1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P				

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MISCELLANEOUS
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⚠	1-230-940-31	RESISTOR ASSY, HIGH-VOLTAGE
⚠	1-426-350-21	COIL, DEMAGNETIZATION
⚠	1-451-275-11	DEFLECTION YOKE (Y28PFA)
	1-452-032-00	MAGNET,DISK; 10MM ϕ
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ
⚠	1-536-591-61	BLOCK, ANTENNA (USA ONLY)
⚠	1-536-902-21	ANTENNA BLOCK (CND ONLY)
⚠	1-559-396-11	CORD, POWER
SP901	1-503-918-11	SPEAKER
SP902	1-503-918-11	SPEAKER
T504	⚠1-439-372-13	TRANSFORMER ASSY, FLYBACK
TU101	⚠1-463-771-11	TUNER, ET (BTP-201A)
V901	⚠8-737-753-05	PICTURE TUBE (A68JMT50X)

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ACCESSORIES AND PACKING MATERIALS
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PART NO.	DESCRIPTION	REMARK
1-465-202-11	REMOTE COMMANDER (RM-764)	
1-513-379-00	CONVERTER (EAC-25) (CND ONLY)	
1-562-443-11	CONNECTOR, ANTENNA (USA ONLY)	
3-750-272-21	MANUAL, INSTRUCTION	
3-750-272-31	MANUAL, INSTRUCTION (CND ONLY)	
*4-384-027-01	BAG, PROTECTION	
*4-388-939-02	CUSHION (UPPER) (ASSY)	
*4-388-940-01	CUSHION (LOWER) (ASSY)	
*4-388-965-02	INDIVIDUAL CARTON	

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